Lettsomian Lectures

ON THE

COMBINATIONS OF MORBID CONDITIONS OF THE CHEST.

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LECTURE II.

VI.—Combinations in Acute Cases.

Mr. President and Gentlemen,—I now invite you to a discussion of certain aspects under which acute chest cases come before us in practice, presenting combinations of conditions which we are bound to recognise if we desire to understand these cases properly, and to treat them intelligently and rationally. I do not know whether my experience accords with that of others here present, but I meet nowadays with so many acute chest affections of a more or less complicated nature that it is really quite a comfort to come across a case that is fairly simple.

A.—Acute Conditions supervening on Chronic.

It is a very common event for some acute chest affection to supervene upon chronic morbid conditions of various kinds, and this is a most important point in relation to my subject. The natural tendency is to look upon an acute complaint as the sole mischief, especially if nothing is known about the previous history of the patient, and therefore it is always necessary to guard against this tendency, and to be constantly on the look out for any preceding chronic changes which happen to be present. On the other hand, when such changes are known to exist, and especially if they are pronounced, the development of any acute complication demands immediate recognition, as well as intelligent study in relation to the circumstances under which it occurs. I will now proceed to give a few illustrations of the more prominent combinations which have to be recognised under this category, so far as they have come within my own personal experience.

1. I must just refer once more in this connexion to the importance of always recognising the presence of certain conditions of the chest walls and other minor changes, discussed in the former lecture, when an acute affection develops in this region. That under such circumstances, especially if they are pronounced, they add more or less, and often seriously, to the troubles and dangers associated with such an affection is indisputable, and they may contribute in no small degree to a fatal result. I need scarcely say that the occurrence of an acute inflammatory disease as a complication in a case of a marked chest deformity is often most grave.

2. The importance of pleuritic adhesions in relation to acute diseases of the chest is so manifest that I make no apology for discussing this point in some little detail. In the first place, it is interesting to note that when a local adhesion exists, the history of which is quite unknown, the corresponding limitation or undue prominence of signs of a bronchial catarrh may reveal its presence and site, and I have known this happen again and again in the same case.

A far more important condition to be noted in its association with acute affections of the chest is the existence of a unilateral basic adhesion, extending more or less upwards, the signs of which may or may not have been previously evident. There is generally a history of some acute illness, be it only known by the expression "congestion of the lungs," and of course the practitioner may be aware of all the facts of the case. This condition always acts as a predisposing cause for the special implication of the lower part of the affected lung, which is embarrassed by the adhesion; and even when the patient has merely a slight cold, but still more if he has a definite bronchitic attack, the signs usually become so marked and out of proportion over the corresponding base that anyone who is not aware of the combination is very likely to attach far greater importance to them than they deserve, and to diagnose a serious congestion of the lung (which in a certain sense may be correct) or an actual pneumonia which does not exist. Therefore, whenever moist râles in more or less acute cases are heard only or in marked excess over one base, other signs of pneumonia being absent, the possibility or even probability of an adherent pleura being the explanation should always be borne in mind.

There is one class of case to which I particularly wish to refer in connexion with basic pleuritic adhesion. The tendency of this condition is not only to embarrass the lung and probably to damage its structure to some degree, but also to retain secretions or any morbid products which may be formed in the bronchial tubes or air vesicles. I frequently meet with cases in which râles due to such accumulation are constantly present at one base, varying in their amount from time to time. Indeed, sometimes, in association with a general agglutination, they are heard extensively over one side, and I have ventured to give to these adventitious signs the term "adhesion râles." Now it occasionally happens in course of time that without any obvious increase in the physical signs, indicating either pneumonic consolidation or pulmonary destruction or suppuration, more or less acute general symptoms set in, much like those of phthisis, which increase in severity, until sooner or later the patient succumbs. Local symptoms may develop or increase, but not in proportion, and there is often only a small amount of muco-purulent expectoration. Sometimes signs indicating secondary progressive implication of the lung tissues in an upward direction supervene, but they do not point to anything like a cavity. No doubt many of these cases become actually tuberculous, and they would be classed as "basic phthisis," but certainly not all. At any rate, I have met with some in which experienced bacteriologists have failed to detect any tubercle bacilli in the sputum, even after repeated examination. I have a strong opinion, however, that the grave results in all these cases are really due to micro-organisms, probably of different kinds, which gain access with the inspired air into the base of the lung, where they find a suitable nidus in the retained secretions and morbid products, in which they flourish and multiply, producing toxins which are absorbed and by degrees poison the patient. Whatever may be the explanation, the practical lesson is that a basic adhesion accompanied with the persistent presence of râles is a condition never to be overlooked or underrated, and one that decidedly predisposes to acute changes, which may be of a grave nature.

I now wish to say a few words with regard to acute conditions occurring in cases where one lung is universally adherent. Should a well-marked attack of bronchitis develop under such circumstances the signs on the two sides are likely to be quite different, and the embarrassed lung will probably suffer much more seriously than the opposite one. The relation of a generally adherent lung to acute tuberculous changes is extremely interesting and important. Unquestionably an acute phthisis with rapid destructive changes may develop in connexion with a lung which has been known to be generally adherent for a long period, but which until that time has given no apparent trouble, or it may start on the healthy side. Another tuberculous process which may possibly complicate a general chronic pleuritic adhesion is what may be described as an outburst of miliary tuberculosis in the corresponding lung, while the opposite one is practically free.

Before leaving the pleura I may mention that sometimes an acute intra-thoracic inflammation complicates the pronounced combined conditions associated with this structure alluded to in the previous lecture. The possibility of such a complication in a case of empyema which has communicated with the lung must also be noted, of which I have met with more than one striking instance.

3. With regard to the more definite chronic diseases of the chest, it must be borne in mind that acute complications may occur in connexion with any pulmonary affection, cardiac diseases, aneurysm, &c., or in more or less complex cases. The supervention of an acute complication upon a chronic cardiac affection is always a serious matter, and demands the most careful attention. Of course, any acute inflammatory disease associated with the respiratory organs may set in, and its dangers are likely to be much increased under the circumstances. Certain forms and combinations of cardiac diseases are liable to produce at any time acute pulmonary

congestion with œdema, or sometimes embolism and infarction; or hydrothorax may occur. The development of an acute endocarditis, probably malignant, on an old valvular disease is of supreme consequence, and this possibility should never be forgotten. When this condition happens to be added to an already complicated heart case, with an adherent pericardium, possibly accompanied with extensive aortic degeneration, the entire combination is from all points of view extremely grave.

B.—Associated Conditions in Air Tubes and Lungs.

It is important to draw attention to the fact that in a considerable proportion of cases in which the lungs are acutely affected, we have to deal with a more or less complicated state of things, as regards the actual conditions in these organs and in the air tubes. For instance, a mere attack of bronchitis, by obstructing the tubes in different degrees, leads, on the one hand, to temporary accumulation of air and consequent pulmonary distension, or, on the other hand, to pulmonary collapse of lobular or more extensive distribution. The expression "congestion of the lungs" is commonly employed in relation to acute chest cases in the most vague way possible, and is in not a few instances absolutely wrong and misleading; nevertheless, I wish to point out particularly that this is a real condition, which frequently forms an important element in a case, either directly or by its effects. Thus, in connexion with croupous pneumonia, especially if of rapid onset and extensive, or if both lungs are involved, the disturbance of the pulmonary circulation is sure to lead to congestion of more or less of those portions of the organs which are not consolidated, and it may be of practical consequence to recognise the combination. The conditions termed "broncho-pneumonia" and "capillary bronchitis" are also in reality of a mixed character, in which pulmonary congestion takes a prominent part. It is likewise associated with acute miliary tuberculosis, giving rise to certain of the signs observed in this disease.

C.—Secondary Effects of an Acute Disease.

Important combinations of morbid conditions come under this head, but it must suffice to give two or three of the more prominent illustrations. Cases of acute inflammatory effusion in the pleura or pericardium, or both, afford some of the most striking examples we have of the secondary effects of physical conditions within the chest, referred to in the previous lecture, and the combinations resulting therefrom are often very grave, not only in themselves, but also owing to the rapidity with which they are produced. Dropsy of these serous cavities developing acutely would give rise to similar consequences. Again, acute pulmonary affections not uncommonly act seriously upon the heart in different ways. Thus, an attack of bronchitis in a case of pronounced chronic emphysema tends to greatly embarrass the right heart, causing accumulation of blood in its cavities, actual temporary dilatation, or possibly cardiac thrombosis. Similar consequences are observed in cases of rapid and extensive broncho-pneumonia or capillary bronchitis, even when the lungs have been previously perfectly healthy, and the cardiac complications add seriously to the danger of such cases. In a severe case of croupous pneumonia, not only may similar difficulties arise, but the myocardium is also liable to undergo serious acute degenerative changes. On the other hand, secondary lesions in the lungs are likely to follow certain acute conditions associated with the right heart—namely, clotting of blood in its cavities, and endocarditis, especially if of the malignant variety.

D.—Combinations of Acute Inflammatory Diseases.

I now approach a question of great interest and practical moment in relation to acute diseases of the chest, and that is the various ways in which the several inflammatory diseases may be combined in particular cases. I am convinced that the frequency with which such combinations occur in actual practice is not by any means realised as it ought to be. It is impossible to do more in this lecture than to offer a few general remarks on this part of my subject.

1. *Tracheo bronchitis. Varieties of bronchitis.*—I merely mention tracheo-bronchitis in order to point out that inflammation of the trachea is in many instances a very prominent element in acute bronchitic cases—at any rate, at their commencement—and, as a matter of fact, is mainly accountable for the early symptoms. It is further worthy of note that the term 'bronchitis" really includes conditions of different kinds, which are frequently associated in the same case.

2. *Pleuro-pneumonia.*—This is another expression in common use to which no very clear or definite meaning is attached. A certain amount of pleuritic exudation may be regarded as an almost essential concomitant of a pneumonia reaching the surface of the lung. There is, however, quite another class of cases, though I believe some authorities dispute their reality, in which pleuritic effusion and pneumonic consolidation exist together, sometimes developing more or less simultaneously, but more frequently one condition following the other. Then there are the cases in which, on the one hand, an acute empyema opens into the lung; or, on the other hand, a pulmonary abscess resulting from pneumonia bursts into the pleural sac; moreover, in cases of pulmonary abscess pleurisy may certainly be set up without any actual communication with the cavity of the pleura.

3. *Broncho-pneumonia.*—This may be regarded as a combination of acute inflammatory affections of the respiratory organs, but it needs no more than a passing mention. The association with this disease of non-inflammatory conditions involving the lungs has already been referred to.

4. *Bronchitis with lobar pneumonia.*—A certain degree of bronchitis is often associated with lobar pneumonia, but I draw attention to this class of cases more especially in order to emphasise the fact that a patient may have an extensive bronchitis, with abundant purulent or muco-purulent expectoration, while the lower lobe of one lung is at the same time the seat of definite lobar pneumonia. Under the circumstances the pneumonic consolidation is decidedly in danger of being overlooked, as I have known happen more than once.

5. *Diphtheritic extension.*—It will be convenient in this connexion briefly to notice those cases in which diphtheritic membrane spreads down the air passages into the bronchi, finally extending more or less into their smaller ramifications. This is of course a form of inflammation, while it gives rise to other inflammatory conditions, as well as to secondary pulmonary changes, which ultimately frequently lead to a very complicated state of things.

6. *Pericardial and cardiac inflammations.*—A very important class of acute cases which come under the category we are now discussing, are those in which pericarditis is associated with endocarditis, or there may even be at the same time a myocarditis. They are by no means uncommon, more especially in connexion with rheumatism in young subjects, and we see the results of the combination in many chronic cardiac cases which come before us in later life. The late Dr. Sturges, whose unexpected death under such sad and distressing circumstances we have to deplore, discussed this aspect of the subject in a very interesting and instructive manner in his Lumleian Lectures for 1894, and I cannot do better than refer you to these lectures for further details.

7. *Complicated cases.*—Lastly, we now and then meet with cases of acute intra-thoracic inflammation which can only be described as "complicated." Exceptionally these cases present an extremely intricate and complex aspect, especially if there happen to have been previous chronic conditions. Thus there may be more or less pleuro-pneumonia on both sides; double empyema; pericarditis may supervene on a pneumonia or pleuro-pneumonia; or there may even be a complication of pleurisy and pneumonia, perhaps double, with pericarditis, endocarditis, myocarditis, and a mediastinitis thrown in. The class of cases last mentioned may be associated with acute rheumatism, when, though very grave, they are not necessarily fatal; with influenza; or with some obvious internal septic or pyæmic condition. The direct causative relation of micro-organisms to all acute intra-thoracic inflammatory diseases is at the present time a favourite doctrine; and, at any rate, they are certainly concerned in some of these cases.

E.—Tuberculo-inflammatory Conditions.

There is a special class of cases which I think may be fairly differentiated under this heading. They come before us in different aspects: it may be as an ordinary lobar or more limited pneumonia, not necessarily apical; more commonly as a disseminated lobular or patchy pneumonia; or in some instances as a marked pleuritic or pleuro-pneumonic case. The foundation of all these lesions, however, is tubercle, as the course of events as a rule soon declares. Patients with these conditions may be actually walking about, and come to the hospital or consulting room for advice, the early symptoms not having been

sufficiently pronounced to attract much attention. I have known such cases present themselves for the first time with a temperature of 103° F. or more, and obviously seriously ill. Sometimes the lesions follow a more or less profuse unexpected hæmoptysis. There is no class of acute cases against which we need to be more constantly on our guard, lest we should fail to detect them or misinterpret their significance. They do not necessarily go steadily from bad to worse, for the inflammatory products not uncommonly to a great extent become absorbed, the patient improving in a corresponding degree. The definite phthisical changes, however, usually remain, and the ultimate issue is sooner or later as a rule but too inevitable. Exceptionally, under favourable conditions of home treatment, climate, &c., cases of this kind undoubtedly practically recover; on the other hand, their history is far more likely to be that of a very acute phthisis.

F.—Miscellaneous Conditions.

I have thus designated a separate group of cases in order to indicate the fact that the organs contained within the chest, which are so essential to life, are liable to be affected in an acute manner, and to present more or less serious combinations of conditions, under circumstances which do not fall under any of the preceding classes, but which, nevertheless, it is highly important that we should recognise. I refer, for example, to those which result from, or are associated with, poisonous inhalations, not forgetting fogs; toxic causes; the "typhoid state"; exposure to extreme cold; partial suffocation; and certain nervous diseases. Their effects are evidenced by more or less grave disorders of the respiratory and circulatory functions; and it will suffice to state that they may more immediately give rise to such conditions as pulmonary congestion and its consequences, especially hypostatic; coagulation of blood in the vessels; embolism and infarction; pulmonary paralysis; cardiac dilatation or thrombosis; or failure of the respiratory muscles, especially the diaphragm. Inflammatory complication may of course subsequently supervene.

VII.—ACCIDENTAL LESIONS OR COMPLICATIONS.

Under this head I propose to notice very briefly certain classes of cases in which, usually quite suddenly or at any rate very acutely, some definite event or lesion occurs within the chest, which is associated with, and is the direct result of, some previously existing morbid condition or conditions. As a rule the complication is indicated by phenomena of a pronounced and often grave character; and it may cause immediate or very speedy death.

The important sudden lesions, not immediately fatal, which we have to be prepared for in practice as possible complications of previous diseases, are pneumothorax; the bursting of an abscess or collection of pus, especially of an empyema into the lung, a pulmonary abscess into the pleura, or a mediastinal abscess in different directions; some lesion leading to mediastinal and subcutaneous emphysema; rapid and extensive cardiac or pulmonary thrombosis; rupture of a cardiac valve or septum; certain forms of hæmorrhage, with grave hæmoptysis; charges affecting an aneurysm, especially its rapid enlargement or extension in certain directions, or its communication with the superior vena cava; and rupture of an œsophageal pouch, which, however, is an extremely rare event.

Pneumothorax is, of course, in the large majority of cases a complication of phthisis, but the possibility of its occurrence in this disease is not always appreciated as it ought to be, and I have known the lesion utterly mystify a clinical observer even when all the evidences of the condition were perfectly pathognomonic. It must be remembered, moreover, that pneumothorax may be on a limited scale, owing to the existence of pleural adhesions, and then it may not give rise to any serious disturbance in the way of symptoms, though the physical signs may be characteristic enough. Cardiac thrombosis and its consequences demand very careful study, and may be exceedingly difficult to recognise or understand. Hæmoptysis is usually regarded as a symptom, but when severe it is really an evidence of some definite lesion, the nature of which is generally clear enough, in relation to the known circumstances of the case, but certainly not always. Its occurrence is from this point of view of great significance in certain cases of phthisis, as well as in relation to the bursting of an aneurysm into the air passage.

One of the most interesting lesions which may occur in connexion with an intra-thoracic aneurysm is the sudden formation of a communication between it and the superior vena cava, of which the following case is an interesting example. Some years ago I had under my care a very obscure and complicated case of aneurysm of the arch of the aorta. When I first saw the patient he was in great distress on account of his breathing, and, by the way, was supposed to be suffering from asthma. He improved so much under treatment that he became rather lax in carrying out instructions, and after a day of sight-seeing he was during the night suddenly seized with very grave symptoms. A neighbouring practitioner was summoned, and the sight that met him was that of a man suffering from urgent dyspnœa and struggling for his life, at the same time presenting a swollen and intensely cyanotic aspect. The patient was conscious that something had gone wrong in his chest, and drew the attention of the medical man to a tremendous thrill and a whirring noise which could even be heard at a distance. Need I say that he was somewhat taken aback, and could not quite understand the state of affairs. I saw the patient some hours afterwards, and he was so changed that I could not have recognised him. The physical signs persisted, and all the phenomena of obstruction of the superior vena cava became extreme, but the patient lived for some weeks.

VIII.—SUDDEN OR ACUTE DISORDERS OF FUNCTION, TEMPORARY OR PAROXYSMAL.

Under this head I have to draw attention to another most important group of combinations, in which sudden or acute disorders occur, sometimes very grave, which are often spoken of as functional, and which at any rate cannot be attributed directly to any definite structural lesion or change. The conditions to which I chiefly refer in this connexion are: 1. Respiratory disturbances, especially attacks of so-called "bronchial or spasmodic asthma"; cardiac dyspnœa and certain other forms of disturbed or excessive breathing; disorders associated with the larynx, due to interference with intra-thoracic nerves; and certain diaphragmatic functional difficulties. 2. Cardio-vascular, including mainly excessive or disturbed cardiac movements of various kinds, and palpitation; weakness or failure of the cardiac action, with syncope; and the complaint known as "angina pectoris." 3. Dysphagia, due to some functional disorder of the œsophagus. I may also note here that we should always take into consideration in cases of acute inflammatory diseases of the chest the important influence of the nervous system upon the respiratory and cardiac functions, by which the symptoms may be materially modified; and in all cases to be prepared for the possible tendency to what I may call "neurotic exaggeration."

Such terms as "asthma" and "angina pectoris" are unquestionably often thought to represent entirely independent complaints, at any rate by the laity, and we cannot too strongly insist upon the fact that they are not so in a large majority of cases, but that various structural changes, usually quite obvious, determine the occurrence of an attack. Some of the disorders alluded to may, like grave and sudden organic lesions, kill instantly or very rapidly, as when death happens from cardiac failure supervening on heart disease, or from angina pectoris; otherwise the attacks are of a temporary nature, and certain of them tend to be paroxysmal.

"Asthma" is a term of decidedly indefinite application, and it is not infrequently applied to cases which are really not asthmatic at all, while much more grave conditions, such as certain disturbances produced by an aneurysm, may be mistaken for this complaint even by experienced observers. The attack or "fit" of asthma, however, as a rule presents very characteristic features. In the large majority of instances it supervenes upon distinct and obvious morbid changes associated with the chest, which tend to become more and more pronounced as the case progresses. The cases in which asthma occurs are, as is well known, usually more or less of the "emphysematous and bronchitic" type, but rigidity of the chest walls, adhesion of the upper part of the lung, and other factors which I have already discussed are often of much importance in these cases in relation to asthmatic attacks. Another point to be remembered is that chronic cardiac disease may be present, and also that the right cavities of the heart become more or less overloaded with blood during the paroxysm. These complications when present must be adequately taken into account in relation to the symptoms observed in an asthmatic case.

Angina pectoris is another affection associated with the

chest which usually complicates more or less definite morbid conditions of an organic nature, and whatever view we may hold as to its pathology, it is obviously essential in each case to try to determine what the particular changes happen to be. Those which are most likely to be overlooked are atheroma or calcification of the aorta and coronary arteries, and cardiac degeneration not of a pronounced character.

IX.—MORBID CONDITIONS ORIGINATING FROM THE ABDOMEN.

It may seem needless to burden a subject already sufficiently complicated by dragging in the abdomen in relation to the chest, but this aspect of it must not be forgotten, though I will only allude to two or three points. It is not at all uncommon for accumulations of various kinds within the abdominal cavity so to interfere with the diaphragm and the thoracic contents as to lead to a very decided combination of morbid conditions, which may demand active interference for their relief. The trouble is all the greater if there happen to be previous organic diseases within the thorax. Extreme tympanites, ascites, any large abdominal tumour, and pregnancy afford familiar illustrations of the conditions originating these difficulties. The association of pregnancy with serious pulmonary or cardiac diseases, or both, often presents a very trying problem, both as regards diagnosis and treatment, especially if some acute chest affection still further complicates matters, a combination of which I have met with some striking examples. Again, an enlarged spleen or liver, or a renal tumour may encroach in various degrees in an upward direction, so as to lead to more or less obvious or serious consequences. The rupture of an abdominal abscess, not forgetting sub-phrenic, or of a hydatid cyst into the thorax, originates an important class of cases. I will only add, further, that to be called in and expected to give an immediate and positive opinion, from one examination, as to the origin and progress of a chest case which has started from some abdominal trouble, and which has existed, perhaps, for many weeks, and as to the existing state of things, with their treatment, is about the most trying experience and ordeal that any physician or surgeon, however skilled he may be, may be called upon to undergo.

CLINICAL LESSONS: INVESTIGATION OF CHEST CASES.

Having thus attempted to give some comprehensive summary of the chief combinations of morbid conditions of the chest, I now proceed to look at my subject from another point of view, with the intention of trying to bring out certain practical clinical lessons which I think it is calculated to teach, and of offering some general remarks on the investigation of chest cases. I take it for granted to start with that the advantages of some systematic arrangement of this kind for clinical purposes will be acknowledged by all who have had much experience in such cases. Personally I have found it of the greatest help, and I have no hesitation in affirming that without a fairly clear comprehension of, at any rate, the more common chest combinations which are likely to be met with, it is impossible to undertake the investigation of individual thoracic cases with any degree of confidence.

1. My first proposition, which needs to be emphatically urged in these days of hurry and bustle, is that every thoracic case is worthy of at least a fair amount of study and consideration, and that it is our duty to try to determine as accurately as possible what are the actual conditions which in various combinations we have to take into account. A chest case would, I suppose, be ordinarily understood to signify one in which symptoms of some kind and degree attract notice to this region. If these should happen to be of a pronounced character, be they sudden, acute, or chronic, no doubt they would receive as a rule adequate consideration; and it may be observed in passing how often serious combined morbid changes are thus brought to light by some accidental event, or, it may be, by what looks like a mere passing functional disorder. Should they, however, be slight or indefinite, then comes the special danger of superficialness or actual neglect of investigation. Over and over again have I found some apparently trivial symptoms to be the earliest revelation of various associated changes, not uncommonly of a pronounced and serious nature, of which it may be of the highest importance to the patient to be fully aware, if only from a preventive point of view.

2. The next point which I wish to enforce is that every chest case should be approached with an open, I may say a "comprehensive," mind and an unbiased judgment, both as regards structures and diseases. At any rate, it is most dangerous to have a too definite or preconceived idea as to this or that organ being affected, the supposed nature of the complaint as expressed in a name, and the conditions which we expect to find. We must always be prepared, moreover, to meet with combinations of morbid conditions, affecting several structures it may be, for which we were entirely unprepared, even in cases which are apparently clear and simple; and sometimes we are confronted with such a complex or curious state of things that only a clinical observer fully acquainted with the particulars I have indicated is likely to understand it in the least. In dealing with sudden or acute cases we have to be specially on our guard against a too narrow conception of their nature and combinations, otherwise we shall be ever in danger of making most grave and irreparable blunders; but even in chronic and ordinary cases the same principle must guide us as a general rule, if we wish to avoid serious errors in diagnosis.

3. I now proceed to look at the clinical investigation of chest cases from the more positive point of view in its bearings upon my subject. I suppose we are all agreed that we ought to avail ourselves of every means which we can employ in such investigation, and to study intelligently all the clinical signs which are thus presented for our interpretation in any individual instance. We must be especially careful in these days of progressive and aggressive science not to neglect the old methods which have served us in such good stead in the past, and without which we absolutely cannot get on, or to allow them to be entirely supplanted by others of recent introduction, which, after all, can only afford a limited kind of information, and some of which are by no means always reliable or easy of application. Taking a comprehensive view of the immediate investigation of a patient supposed to be suffering from some chest affection, the process may be summed up as including: (1) systematic physical examination of the thorax and its contents, by the more simple methods commonly recognised under this expression; (2) intelligent inquiry as to the presence or absence of symptoms—subjective and objective, local, general, and remote—so far as they are directly associated with and the result of thoracic conditions, and the methodical study of any such phenomena which happen to be present; and (3) the employment in appropriate cases of special methods, and amongst these would come the use of the different instruments and other apparatus which are available for clinical purposes in relation to the thoracic structures.

I desire to offer a few practical remarks with regard to each of these divisions, in their relation to the investigation of combined morbid conditions associated with the chest.

I have placed physical examination first for the following reasons. It is, in the first place, obviously the only means by which we can gain any reliable information whatever as to the presence and nature of the combinations of morbid changes affecting the chest and its contents of which I have been speaking; and, therefore, it constitutes the most advantageous starting point of our clinical investigation in a large number of instances. Secondly, it is very important to remember that combinations of thoracic morbid conditions are not uncommonly detected by physical examination which are not revealed by any symptoms whatever, or, at any rate, none of sufficient moment to attract attention. Therefore, it is a safe rule thus to investigate the chest more or less in every case which comes under our professional observation. I believe it would be a very good plan, especially under particular circumstances, if individuals would present themselves for examination from time to time, just to see what is the condition of their important organs. Now and then, but only exceptionally, one does come across a wise person who thinks it worth his while and money to be thus overhauled; and on the whole these are about the most satisfactory cases to be met with in practice. The only opportunity, however, one usually gets of investigating from this aspect is in relation to life insurance, when we do sometimes discover very remarkable and unexpected morbid changes. Thirdly, physical examination often reveals readily and positively pronounced organic conditions in various combinations, which at once explain all the clinical phenomena observed, making the case perfectly clear and simple; and amongst these conditions it may detect one which demands immediate treatment. There is one point that I wish specially to notice in this connexion. It is often stated that certain conditions within the chest cannot be detected by physical examination with any certainty, or, at any rate, onl exceptionally. I

more especially allude to pleuritic and pericardial adhesions. Such a statement I strenuously dispute, and I maintain that these changes, as well as others more or less obscure, may frequently be demonstrated as parts of a case, if they are duly borne in mind and properly looked for, and if their signs are intelligently appreciated.

In the next place I desire to say a few words as to the general principles upon which physical examination of the chest should be conducted, in order to be of any real service in demonstrating the presence and nature of the various combined conditions. Concisely stated, it must be always systematic, and as thorough and comprehensive in all respects as the circumstances of the case permit, with due regard to the state of the patient. An unmethodical examination, or one limited to the upper part of the chest and perhaps the cardiac region, is by no means adequate in any case, and such a mode of procedure habitually adopted is certain to lead to many disastrous results. There is one tendency against which it is necessary to warn in this connexion, and that is the practice of always looking for some special condition, such as lung consolidation, a pleural effusion, or disease of a cardiac orifice or valve; and, should either of these be found, fixing upon it and ignoring everything else. Of course, it is essential to be thoroughly familiar with the signs of such simple conditions and to be able to recognise them positively, but we must never forget that in a large number of cases they are mixed up in every conceivable way. Of course, in every case the heart and great vessels ought to be invariably separately and systematically examined. Moreover, should any exceptional disease be suspected or discovered, such as an aneurysm or solid tumour, it is well to have a definite and special plan of examination which can be methodically carried out in such cases. While it should be the rule in relation to physical examination of the chest to aim at finding out all the conditions present in a particular case, on the other hand much discretion is required not uncommonly in carrying it out, as in cases of an acute and complicated nature, or where sudden grave lesions or disorders supervene on chronic diseases, or in advanced phthisical or cardiac cases. Under such circumstances our investigation should be as brief and as little disturbing to the patient as possible, even though we are not able to make out to our satisfaction the exact state of things, and in some instances we had far better omit physical examination altogether in the meanwhile. It is remarkable, however, what we may find out even then without disturbing the patient to any appreciable degree, if we go about the examination in the right way, and make good use of our eyes and hands. The more simple methods of examination just alluded to—namely, inspection and palpation—are also often of the greatest service in the detection of certain associated physical conditions of the chest, especially when employed together and for definite purposes, and I do not think that they are at all utilised to the extent that they might be. There is one other point that is worth noting—namely, the essential value of certain special signs in the detection of a particular and unusual condition which happens to form part of a more or less complex case. Thus, the "bell sound" or the "succussion splash" may be the only evidence under such circumstances of the pleural conditions with which these signs are severally associated.

CHRONIC GASTRIC ULCER AND ITS TREATMENT BY PAPAIN.

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THE symptoms produced by gastric ulcer are so well known as to need no recapitulation, and in a well-marked and recent case are so unequivocal as to make the diagnosis both easy and certain; but in the chronic form of the disorder it often happens that the symptoms are indefinite, and it then becomes a matter of difficulty to arrive at a satisfactory conclusion as to what exactly are the local pathological conditions to which the signs presented by any given case are due. Ordinary ulceration of the mucous membrane of the stomach may be produced by various causes, but one of the most frequent etiological antecedents, especially in females, is anæmia, and when anæmia is not an antecedent condition it is generally in chronic cases a consequential one, so that it may be looked upon as a concomitant of the disease. Treatment is often unsatisfactory and the following method is submitted, not because it embraces anything new, but merely because it seems to have been productive of good results in the cases here enumerated, as well as in many others of a more indefinite character which have come under observation but which the scope of this paper will not embrace. The value of papain in gastric conditions, presumably of an ulcerative character, was first suggested to me by the following case.

CASE 1.—A woman thirty-two years of age, thin, pallid, and badly nourished.

Symptoms and history.—She experienced pain soon after eating, and she had observed that the amount of pain had been proportionate to the roughness and solidity of the food which she had taken. The pain had always been accompanied by flatulent distension, and was increased by pressure over the epigastrium. There had been a continual sense of oppression and nausea, which was relieved if vomiting occurred. Heartburn had been a distressing symptom. Her appetite had been fairly good, but could not be indulged from fear of the subsequent discomfort. Constipation had been a constant trouble. The menstrual discharge had been irregular, scanty, and pale in colour. She had had occasional palpitation, uncomfortable attacks of faintness, and breathlessness on exertion. There was extreme tenderness to touch in the epigastrium, limited to a spot on the right of the ensiform cartilage. Her tongue was clean, red, glossy-looking, and abnormally sensitive. Her pulse was small and rapid, but the cardiac dulness was normal, and the sounds were masked by a hæmic murmur. Bruit de diable was well heard in her neck. The other organs were apparently healthy, and the urine was normal. There was some distension of the abdomen, which was tympanitic on percussion all over. When a girl she suffered from bloodlessness, for which she was repeatedly under treatment for months at a time. Six years ago she had a serious illness, the leading feature of which was a large vomiting of blood, followed by a smaller attack some weeks later. She was then ill for several months, but eventually recovered. Ever since she had suffered from dyspepsia, which had become aggravated within the last three months and complicated latterly by frequent sickness. The breathlessness on exertion was a comparatively recent development.

Treatment and result.—Careful dieting and the usual succession of remedies for the relief of her symptoms brought about in time a general improvement of her health, and particularly a marked diminution of her anæmia, but there still remained pain after food, especially if solid, and periodic attacks of violent sickness. An alkaline mixture, containing papain, morphia, and strychnine, was then ordered, and under its influence the dyspeptic symptoms yielded, and she gradually experienced greater comfort than she had known for years. Suddenly one day, after unusually heavy household work which her feeling of improvement had tempted her to undertake, she complained of acute pain in her abdomen, became collapsed, and at the end of a few hours died.

Necropsy.—There was no evidence of organic disease except in her stomach, which was found at one part of its lesser curvature to be glued to the edge of the left lobe of her liver. On the mucous surface, at a point corresponding to the seat of this adhesion, there was an old cicatrix, circular in shape and about the size of a florin, but at its outer and lower edge there was an elliptical portion of fresh ulceration, and in this situation the perforation had occurred. Close by were two smaller abrasions of surface, evidently of recent date—one circular and the other oval in shape. Both were in process of healing, and the larger of the two, though still of a deeper tint than the surrounding mucous membrane, was partially cicatrised. All the abrasions were on the anterior surface of the lesser curvature. These post-mortem appearances, when viewed in the light of the history of the case and when taken in conjunction with the positive assurance of the patient that from the date of the commencement of her illness she had never been so well and free from pain as since she commenced to take the papain mixture, suggested that possibly this drug, which had not been previously administered to her, had done something towards healing the ulcerated patches, and had, as a consequence, afforded relief to her symptoms. The perforation in all probability was caused by the unusual exertion which she was unwisely tempted to undertake, and was determined at the spot where it occurred by recent activity of the ulcerative process

at the edge of the old cicatrix, and by special tenuity of the stomach wall at that particular situation.

Acting on this supposition, papain was administered in many suitable cases, and the following are selected because they most strongly illustrate the beneficial effect of the treatment adopted.

CASE 2.—A young woman twenty-eight years of age, tall, thin, but fairly well nourished.

Symptoms and history.—For nearly a year she had had discomfort immediately after food, and during the past three weeks the discomfort had increased till it had become sometimes pain of the most agonising description. For days past the pain had been so severe and continuous that she had been afraid to swallow anything. Till lately she had only suffered from sickness very occasionally, but since the pain had become worse it had been invariably accompanied by nausea, often leading to retching, and sometimes to active vomiting. On the least exertion she became giddy and faint, and experienced a sense of pulsation all through her body. She had an almost irresistible craving for stimulants. Her catamenia had ceased entirely for six months. On her return from a short walk, the latter part of which was hurried to avoid a shower of rain, she was suddenly seized with alarming hæmorrhage from the stomach, the quantity of blood vomited amounting to about two pints. The shock of this large bleeding was great, and when first seen her condition of collapse was so extreme as to make her recovery doubtful. Hypodermic injection of ether and ergotin, together with an enema of meat-juice and brandy, however, fortunately restored her. An ice-bag was intermittently applied to the abdomen, and for six days she was fed entirely by nutrient enemata. Three days after her first attack there was a renewal of the hæmatemesis to a much smaller extent, but still enough to induce a minor degree of collapse and to necessitate the repetition of ether and ergotin hypodermically. During these six days she was allowed to suck ice *ad libitum*; a succession of two small fly-blisters was applied to the epigastrium; and creasote for two days, followed by nitrate of silver for five days, was administered internally in pill form. At the end of a week the more acute symptoms had subsided, but she was still prostrate, blanched, and with a very rapid and soft pulse. There was excessive tenderness at the pit of the stomach and the least pressure excited acute pain and produced faintness. The tongue was red, raw, and dry, causing her difficulty in articulation. Her heart sounds were muffled, but the action was so rapid as to make it impossible to be sure whether or not there was a bruit; the percussion dulness was not increased. There was no evidence of organic disease otherwise. She had been dyspeptic all her life, and at eighteen years of age she had had a similar illness to this one, but the amount of blood then vomited was comparatively small. On several occasions she had been laid aside on account of depressed health, but she did not think she had ever suffered from acute disease. She had been led to understand that she had an anæmic tendency, and she had been frequently treated for a period of weeks with iron. Her menstruation had always been irregular and for the most part scanty. There was a dipsomaniac taint in her family history, which otherwise was satisfactory.

Treatment and result.—On the seventh day of her illness she was allowed to sip milk and barley water, and the nutrient enemata were reduced to two a day. On account of a slight return of the nausea the creasote was resumed night and morning, and three times a day a pill containing papain, reduced iron, and cannabis indica was administered. Her rectum was washed out with a simple enema every morning. After three more days the creasote and nutrient enemata were discontinued, and the diet was supplemented by farinaceous puddings, light broths, &c., leading on gradually to fish, white meats, and cooked vegetables, until eventually an ordinary diet of mixed animal and vegetable substances was tried. The papain and iron pills were increased to four a day, and when she began to take solid food she was ordered in addition a further quantity of papain with her midday meal. At the end of seven weeks from the date of her first hæmorrhage she was quite well and was able to take ordinary food without discomfort. She could walk some distance, sleep soundly, and was ready and anxious to return to work. Since that illness she has three times been threatened with a return of her old symptoms; but when the pain after food has warned her that she was falling off, she has taken similar pills *plus* a small addition of arsenic, has restricted her diet to milk and soup, and on each occasion she has been well within a week or ten days. For upwards of two years now she has been in vigorous health.

CASE 3.—A young woman twenty-two years of age, thin, anæmic, and delicate-looking.

Symptoms and history.—Ten days previously it came to the knowledge of her mistress that this girl was taking little or no food, and on inquiry it was found that she had been ailing for several weeks and that her refusal of food was due to the pain which it caused her. From a slight beginning this pain had latterly become unbearably acute, and, no matter what she put into her stomach, it was invariably followed in about a quarter of an hour by pain, which often quite doubled her up and which was relieved by the attack of vomiting which generally followed. Her appetite was voracious, but she dare not gratify it. She had suffered for about six months from menorrhagia. She had constant headache, was easily fatigued, and in the evening had slight œdema of her ankles. She had always had constipation. Immediately after swallowing a cup of hot tea one morning she was seized with a feeling of faintness, and shortly afterwards vomited about a pint of blood. When first seen she was recovering consciousness, her pulse was feeble and frequent, her skin was bathed in a cold, clammy perspiration, her lips were colourless, and her respiration was shallow and sighing. A hypodermic injection of ether was administered and was speedily efficacious in reviving her. Later in the day, the girl's general condition having improved, it was found that she had tenderness over her epigastrium, which increased to acute pain on pressure. There was very considerable distension of the stomach. The tongue was clean, but shrunken and pallid. The colon was loaded, the bowels not having been relieved for several days. The heart sounds were clear, but there was a hæmic murmur to be heard all over the cardiac area. The urine contained a faint haze of albumen. She had never been a robust girl, but had not suffered previously from acute illness. She had been subject at times to a troublesome cough, but it had always yielded to proper care and management. Her family history was strongly tainted with pulmonary phthisis. One sister died suddenly after a long illness from "bleeding," but whether the hæmorrhage was from the lungs or stomach it was difficult to determine, though several circumstances made it seem likely that its seat was the stomach and that death was due to perforation.

Treatment and result.—Four days after the occurrence of the hæmatemesis the combination of papain, iron, and cannabis indica was ordered. Her diet was carefully restricted, and no solid food was allowed for a fortnight. At the end of three weeks iron, quinine, and arsenic were substituted for the former combination, and papain dissolved in glycerine was given with each meal. The food was gradually added to until a full dietary was reached, and the bowels were easily regulated by enemata of turpentine and oil during the first week and thereafter by a morning dose of infusion of senna pods. In six weeks she was convalescent; her digestion was restored, her strength re-established, and she was sent to a seaside convalescent home, from which she returned after three weeks the picture of good health.

CASE 4.—A married woman forty-two years of age, the mother of five children.

Symptoms and history.—For six weeks she had suffered from loss of appetite, heartburn, constipation, flatulent distension, and pain in the stomach, more or less acute, immediately after food. These symptoms had been augmented during the past week by the occurrence of sickness, and on two occasions by distressing and prolonged retching. She had been listless, depressed in spirits, unfit for exertion, sleepless at nights, and she had been rapidly losing weight. She had a muddy complexion and her expression was anxious and worn. There was not much tenderness in the stomach region except at one spot, so small as to be covered by the tips of two fingers, immediately to the right of the ensiform cartilage, but in this situation there was great sensitiveness, and she cried out on the least pressure. So tender had it been for some days that she had been obliged to leave off her corsets. Her heart was healthy, but there was some muffling of the first sound, which became much more pronounced after slight exertion. Her tongue was coated, dry, and tremulous. Her urine was normal, and there was no other evidence of organic disease. She had once suffered from pneumonia, and all her life she had been easily upset by extra work or worry. Her menstrual function was late in being established, and for the past six months it had been in abeyance. She had always been obliged to be careful as

to her dietary, but she had never before suffered such pain after taking food. Her confinements had been normal, but on each occasion her recovery had been protracted, and she had only been able to nurse two of her children for a period of about three months each. Her family history was unimportant, but was distinctly neurotic.

Treatment and result.—A small dose of calomel was ordered for three consecutive nights, to be followed by a saline draught in the morning. Her diet was restricted to milk and thin clear soups for a week, and a mixture of bismuth, soda, salol, and papain was prescribed to be taken three times a day. After a week the dietary was increased by the addition of fish, fowl, and toasted bread; and later by red meat and cooked vegetables. The bismuth mixture was replaced by the combination of papain, iron, and cannabis indica, and the bowels were regulated by means of compound rhubarb powder, taken according to requirements. In three weeks complete convalescence was established and the digestive functions were normal. All epigastric tenderness had disappeared and she could bear deep pressure without flinching.

CASE 5.—A young woman twenty years of age, ruddy, well nourished, and apparently vigorous.

Symptoms and history.—Two months ago her appetite began to fail, and for the past fortnight she had experienced pain in the pit of her stomach after every meal. The pain continued for three or four hours, and only subsided as the time for her next meal approached, unless vomiting occurred, by which it was at once relieved. It commenced in the epigastrium, but gradually extended through to the back, and was proportionate in degree to the kind of food taken. For ten days past sickness had become a pronounced symptom and had been welcomed by the patient as the speediest relief to her discomfort. Twice, if not three times, the vomited matter had been stained with blood, and on one occasion she observed that the morning evacuation of the bowels was black in colour. Coincidently with her loss of appetite there had been failure of strength and disinclination for effort. Naturally energetic, she had of late become languid, irritable, and unfit for any work requiring concentration of energy. All her life she had been the victim of persistent constipation. On examination of the epigastric region there was considerable tenderness, which did not, however, appear to be concentrated in one spot, though it was greater to the left than to the right of the sternum. Pressure increased the tenderness and produced painful retching. The tongue was abnormally clean and so sensitive that warm or seasoned food dared not be put into the mouth. The apex beat of the heart was somewhat diffuse and the second sound was accentuated, but there was no bruit. There was imperfection of the respiratory murmur throughout the right lung, which did not expand as fully as the left. There was no derangement of the general nutrition. The urine contained an excess of phosphates. Some years ago she had gone through a serious attack of pleuro-pneumonia, from which she had made a slow recovery, but her life had been in other respects a healthy one. She had never before the present time suffered from derangement of her digestive organs. During the last year her work had been unusually arduous, and she had had to contend with an excessive amount of mental worry. Her family history was excellent.

Treatment and result.—A simple dietary was ordered of milk, eggs, clear soups, and farinaceous food; and she was advised to give up work entirely for a time. Papain, iron, cannabis indica, and strychnine were prescribed three times a day, with an aperient dose of euonymin, colocynth, and rhubarb every alternate night. After a week fish, fowl, stewed fruit, and cooked vegetables were allowed. The necessity for a regulated daily amount of open-air exercise was also insisted upon. In fourteen days she was so much better as to be able to resume ordinary food, and at the end of three weeks she was perfectly well and returned to the full duties of her occupation.

CASE 6.—A woman thirty-three years of age, thin, anæmic, and with a careworn, cachectic appearance.

Symptoms and history.—Her illness dated back four years, during the whole of which time she had been a martyr to dyspeptic troubles. She had now given up her work and come home in the hope of finding permanent relief from prolonged rest. She suffered from continual epigastric fulness and pain, which were so aggravated by the taking of food that she had been obliged to live almost entirely on milk, and even that at times had produced acute suffering. Since she first became ill every attempt to take solid food had been followed not only by pain but also by sickness and retching. There had been slight hæmorrhage on several occasions, but she did not think the amount had ever exceeded a few ounces. Her nights had been sleepless, and she had experienced such misery from palpitation as to make her fear she was the subject of some serious form of heart disease. She had all her life suffered from dysmenorrhœa, but the amount of loss at each menstrual period had for over two years been markedly diminished. She had been subject to unaccountable attacks of vertigo, which had always occurred without warning and had often been so bad as to compel her to lie down. They had always been followed by distressing head symptoms, which she had difficulty in describing otherwise than by saying that her head felt "empty and as if it did not belong to her." She distinctly said the discomfort was not pain. Periodically she had an attack of diarrhœa, but as a rule her bowels were constipated and difficult to keep right. She had become very thin and felt unfit for any but the slightest exertion—indeed, if she followed her inclination she would keep to her bed entirely, because only there was she comfortable. She suffered from mental depression, amounting occasionally to mild melancholia. Her epigastrium dare hardly be palpated, and at two separate and circumscribed places near the middle line she could not bear pressure. Even the most gentle examination caused pain, which lasted for an hour or more and produced a continued feeling of deathly sickness. The stomach was distended and tympanitic. Her tongue was slightly coated on the dorsum, but was abnormally red round the edges; it was also dry and shrivelled. Her heart sounds were clear, but the impulse was feeble. The pulse was soft and rapid. There was some decrease in the area of liver dulness, but this was difficult to determine accurately on account of the distended state of the stomach. The urine contained an excess of urates. She had always been a most active person, and though possessed of a highly strung and sensitive nature she had been able to battle comfortably with the difficulties of her life and had never been ill till about four years ago, when, after a long spell of laborious and anxious duty, she broke down and first manifested the symptoms of her present illness. Her family history was highly neurotic, but it was not otherwise remarkable. In the course of this illness she had been better and worse, but never well, and twice before she had given up work for a period of six weeks.

Treatment and result.—Absolute rest in bed was advised, and boiled milk with lime water to the extent of from three to four pints in twenty-four hours, to be taken cold and sipped in small quantities at a time; also meat juice every four hours. One dose of calomel was ordered at bedtime the first night, and every morning an enema of glycerine and hot water. A fly blister was applied over the whole epigastrium. Every six hours she was instructed to take in milk a powder composed of carbonate of bismuth, sulpho-carbolate of soda, papain, and morphia. After a week prepared foods, meat jellies, and clear soups were added to the dietary, and the powders were replaced by a mixture containing strychnine, morphia, and bichromate of potassium. In another ten days the combination of papain, iron, and cannabis indica, to which in this case some arsenic was added, was resorted to. Farinaceous food, white fish, and the simpler meats were allowed, to be followed gradually by further additions as the comfort of the patient and the tolerance of her stomach permitted. At the end of two months she was able, with moderate care, to digest ordinary food. She then resumed her occupation. Her work was modified, and for another month she continued her medicine and still exercised a wise control over her food. In three months she was well and vigorous and able to leave physic alone. She has continued so, and has since reported herself as having regained her normal weight and strength.

CASE 7.—A young woman aged twenty-four years, of bright complexion, tall, and delicate-looking.

Symptoms and history.—Three months ago she first complained of discomfort after her meals. It had become worse daily, and was now accompanied by fulness of the stomach, together with heartburn and frequent attacks of sickness. She was never free from nausea. Her bowels were constipated and she had no appetite for food. Menstruation had been excessive for years, but for some months past the periods had recurred as often as every ten days. She had continual headache, which was worse in the evening than the morning and was relieved by sleep. There was no generalised tenderness and no apparent undue distension of the epigastrium, but to the left of the ensiform cartilage there was

one spot exquisitely tender, which she disliked having touched. Her tongue was fissured, flabby, and raw. There was a loud hæmic murmur in the large vessels and a systolic bruit at the apex, which was situated outside the nipple line. The right edge of cardiac dulness extended to the right margin of the sternum. There was accentuation of the second cardiac sound. The urine contained a distinct ring of albumen. She had twice suffered from hæmatemesis, the last occasion being between two and three years ago, when the bleeding was severe and the convalescence slow. From both attacks her recovery seemed to have been perfect, and she was able in the interim to live as usual and to comfortably digest ordinary food. She had been subject to attacks of rheumatism, but never in an acute form; and in winter time she frequently suffered from a hacking and obstinate cough. Her family history was phthisical.

Treatment and result.—A milk dietary for ten days, to be followed thereafter by gradual additions of solid food, was advised. Papain, iron, and cannabis indica were ordered from the beginning, with an iron and aloes pill for aperient purposes as often as necessary. At the end of a fortnight she was very much better, and in a month she was well except for the mitral murmur, which probably had been of old standing.

CASES 8, 9, AND 10.—These were all mild cases, which need not be detailed. In none of them had there been hæmorrhage, but all manifested the usual symptoms indicative of probable gastric ulcer, and in each the treatment by papain, iron, and cannabis indica produced an eminently satisfactory result in a period ranging from two to four weeks. Cases 8 and 9 were male patients.

General remarks.—The symptoms in these ten cases were so characteristic that it can hardly be doubted that in all of them the pathological condition was one of ulceration, actual or threatened, of the mucous membrane similar to that found post mortem in Case 1 of the series. The results, moreover, of treatment by papain, iron, and cannabis indica are so striking as to make it probable that in such a combination we have a powerful and useful weapon with which to combat a very intractable disease, and one which, perhaps more than most others, impairs the usefulness of the unfortunate victim and renders his or her life a burden. It would seem doubtful whether many cases of so-called irritative dyspepsia may not in reality be due to this definite lesion of the mucous membrane in a latent condition. Hæmatemesis is not necessarily present in every case of even acknowledged gastric ulcer, and in its absence it must always be a matter of difficulty to decide whether the train of symptoms owes its cause to a simple catarrh or to organic change in the substance of the stomach wall. The occurrence of hæmorrhage clinches the diagnosis; but where remedies, useful in cases about which by reason of the hæmatemesis there can be no doubt, give equally good results in allied cases which fall short of the confirmatory evidence afforded by the bleeding, we may assume that such cases may owe their symptoms either to an early stage of the same condition or to an accomplished lesion of the surface so chronic and indurated as to prevent actual loss of blood. By some observers the persistence of pain in patients who have admittedly suffered from gastric ulcer has been ascribed to imperfect movement of the stomach walls consequent upon the interference of the resulting cicatrix; but the histories of Cases 2, 3, 6, and 7 would rather indicate either imperfect healing or the occurrence of another patch of ulceration as the more probable explanation of the continuance of this symptom. Were this not so it is hardly conceivable that each of these cases could have recovered so thoroughly, because it seems certain that in several of them there must have remained one or more cicatrices of considerable dimensions. In all this series, putting on one side the differences of detail required by the idiosyncrasies of each, the plan of treatment has consisted in the exhibition of a mixture of iron, papain, and cannabis indica, generally in pill form, and with varying quantities of each of the ingredients. As the large proportion of such ulcerations occur in anæmic patients the *raison d'être* of the iron is manifest. It may be that in some cases iron is not indicated at all by the existence of any appreciable anæmia; but even then it is probable that the blood is impoverished to some degree, and that the hæmatinic properties of the drug not only restore this depreciation of quality but also, in a secondary way, promote the healing process at the site of lesion. The cannabis indica is useful as a sedative to the stomach walls, as a controller of its muscular action, and as a prop to its nerve-supply, while it is also fully recognised as a direct promoter of appetite. Lastly, papain, which is the most important member of the trio, probably has a complex effect on the curative process. It is well known that when a solution of papain is painted over a fissured or ulcerated tongue it rapidly provokes cicatrisation. The drug is also of value as a speedy solvent of dead tissue, and to some extent it is credited with antiseptic and tonic properties. Its great use, however, medicinally has hitherto been as a digestive ferment, and its activity in this respect would seem to exceed that of pepsin, pancreatin, or any other known agent. If all these powers of papain be admitted it is easy to conceive a reasonable hypothesis to explain the happy results afforded by it in cases of gastric ulcer, particularly when it is combined with other drugs such as those indicated, which by their collateral effect assist and intensify its action. This hypothesis is strengthened by the post-mortem evidences in Case 1 and still further confirmed by the marked alleviation, if not permanent cure, in the other cases above narrated.

Warwick.

CASES ILLUSTRATING THE SURGERY OF THE KIDNEY.

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(*Continued from p. 218.*)

CASE 31.—This case is in many respects a very remarkable and very interesting one, and I must give it in a little more detail than is necessary with most of the cases. A married woman aged forty-four years, mother of two children, both dead, the youngest a daughter, who had died from phthisis aged two and twenty only the year before I was asked to see the patient by Dr. Ferrier. The patient's father died from bronchitis aged seventy years; the mother was still alive; one brother and one sister were also living and well, and one sister was dead. In 1873 when travelling abroad the patient had a severe attack of abdominal pain, so-called "gastric," brought on by a chill, and after this menstruation was for some time very irregular. Before this illness, in 1866, she was riding a great deal a horse that "buck-jumped and did extraordinary things" (she rode this horse from 1863 to 1867), and she then noticed a lump in her right side, which she could sometimes find and sometimes not. She used to have pain in the side and could then feel the lump. In 1881 she got another chill just before the period, and had a severe attack of peritonitis and was laid up for three months; after this the periods again became very irregular and excessive, and there were pain and lameness of the left hip, and just before our first consultation the right hip had also begun to be painful. Dr. Ferrier asked me to examine the pelvis, various troubles for which she had been under his care having entirely resisted all treatment. I found a normal uterus in good position—a large prolapsed and somewhat fixed left ovary and a small right ovary embedded in adhesions and with a distended tube. Any pressure on the ovary caused severe pain and nausea. I advised removal of the ovaries and tubes, and operated on Feb. 24th, 1887. The whole pelvis was a matted mass of dense fibrous adhesions, and I removed two distended tubes (hæmato-salpinx) and, as far as I could, both ovaries; but the right one was so embedded in adhesions that I had to scrape it away, and I have no doubt that more or less ovarian tissue was left behind. She made an excellent and uncomplicated recovery until she went downstairs, when she began to vomit her food. She ate and enjoyed her food, but within a few minutes of swallowing it she vomited without nausea and without strain. She went back to bed, the vomiting became constant, and, to make a long story short, she was in bed for over a year, only kept alive by nutrient enemata and the small residuum of food retained by the stomach after a meal. This was extremely small, as we proved by washing it out for examination. The patient became a perfect skeleton, but was bright and cheerful, and even selected her meals with considerable care and enjoyed them, though they were vomited in less than a quarter of an hour. She was seen in consultation with Dr. Ferrier and myself by

most of the leading physicians in London at different times, and was constantly watched by both of us, but no one ever suggested any remedy that helped her or us. One day, fifteen months after the operation and fourteen after the commencement of the vomiting, it ceased as suddenly as it began, and three meals were taken in succession, and, though so extremely emaciated and weak, she sat up to eat them and remained sitting bolt upright for twenty minutes after, which, she said, seemed to settle her stomach. I have already mentioned a lump in her right side; this I could not find before the operation, and I did not then attach sufficient importance to it to look for it when I had the abdomen open—indeed, my hands were quite sufficiently full with what I had to do in the pelvis. But during this long illness, and when she was emaciated, we found a large, mobile, and somewhat tender right kidney. I may mention that the urine examined before the operation was a good average healthy specimen. She had been having massage shortly before I first saw her, and while this was going on she had for the first time noticed some slimy matter in her urine. There was nothing of the kind when I saw it. These are important facts when we come to the further history and conclusion of the case. When she had quite recovered her usual health she began to have irregular but pretty severe and prolonged uterine losses (probably due to the presence of remains of the right ovary and the irritation caused by changes around the ligatures used and from the contraction of scar tissue). I had always been inclined to regard the vomiting as a reflex result of some such irritation, and had at one time thought of a fresh exploration of the pelvis, but she seemed too emaciated and weak for any serious operation. These losses were an annoyance and disappointment to her, and I saw her from time to time and found that the right kidney was still palpable and tender, but it seemed to give her no trouble. In the early spring of 1889, about a year or less after the cessation of the vomiting, I was asked by Dr. Ferrier to see her again in consultation as the sickness had returned. It was soon as bad as ever, and both the patient and myself now directed much of our attention to the tender right kidney as a possible cause of it, and at last, as she was rapidly losing ground, I urged its removal and a thorough exploration of the pelvic cavity. I operated on June 24th, 1889, Mr. Murray giving chloroform, Mr. Malcolm assisting, Dr. Frank of Cannes and Dr. Ferrier being also present. I found nothing in the pelvis except little shot-like prominences where some of my ligatures were buried, and there was a little omentum adherent to the abdominal scar. The right kidney was a mere thin shell or bag of putty-like and calcareous matter; it was mobile, but very adherent, with fibrous bands and membranes. As I was working through a rather small median opening (I had merely reopened the old incision), I determined to incise the loin and thus extract the kidney. This I did with considerable difficulty, owing to the dense nature of the adhesions. The ureter appeared perfectly healthy, and this made me doubt whether the disease had been originally tuberculous. I have never in any other cases seen a healthy ureter with a tuberculous kidney. I pinned it out in the loin wound. On making a final intra-peritoneal examination I found a large opening in the peritoneum over the site of the right kidney (a fact to be kept in sight when discussing lumbar *versus* abdominal nephrectomy) and a curious thick, strong, fibrous band stretching across the pelvis in such a way that it must have interfered much with all the pelvic organs, and it especially dragged on the right ureter. The kidney after removal was found to be a mere thin shell without a vestige of kidney tissue, its whole interior being occupied with a mixture of putty-like and calcareous material. The patient made an excellent recovery without any bad symptoms, in spite of a partial reopening of the wound after the removal of the sutures—an accident due, I believe, to imperfect union of two edges of scar tissue. I did not in this case, as I usually do in performing a second operation, entirely dissect out the old abdominal scar. Another unfortunate result of this bit of bad practice was a ventral hernia which I had to operate upon two years later, giving her the discomfort of a third operation. She has remained in very good health, but has never quite lost the hip lameness.

The urine examined by Mr. Malcolm at the end of 1887—nearly a year after the first operation and when she was in an extremely exhausted condition from the constant vomiting—was of a good amber colour, acid reaction, sp. gr. 1023, with only a slight deposit, which consisted of bladder and renal epithelium and numerous oxalates. There was a mere trace of albumen. Evidently little or nothing was getting into the bladder from the right kidney either at this time or when I tested it before the first operation. It was very frequently examined during the second vomiting, and presented practically the same conditions. It seems perfectly plain from this remarkable case that the kidney, though entirely destroyed as a secreting organ, may still, when unduly mobile, give rise to the most severe reflex phenomena. All who devote special attention to the kidney must be struck with the very wide range of reflexes which are possible with an unduly mobile organ. This case seems to mark the extreme limit of digestive disturbance, and it certainly is strange that this limit should have been reached with an organ so completely destroyed by disease, and I am inclined to question whether it was the kidney or the healthy ureter dragged upon by the pelvic band which was the cause of the sickness. I have in one other case noted some troublesome sickness following nephrectomy in the case of a young woman whose ureter, fixed in the lower angle of the abdominal incision, remained for a long time patent, and required the occasional passage of a fine gum elastic bougie down it into the bladder to clear it of accumulating secretions. If we regard the alternately kinked or stretched ureter as the cause of the troubles in mobile kidney, we have an immediate explanation of the persistence of pain and other troubles when the kidney is sutured too low in the operation for its fixture (nephrorrhaphy). Such a case is now under my care, and I have failed to entirely cure it by freely dividing adhesions and making a fresh suture because I altogether failed to get it pushed high enough up, though I appeared to have freed it thoroughly. To go back to the early history of the present case, we have a healthy girl riding a rough horse for some years, regardless of times and seasons (I refer to menstruation). This rough riding is, as I have already in a previous paper pointed out, an evident starting point in some cases of mobile kidney, nothing being more likely than that the muscular actions necessary to keep one's seat on a "buck-jumper" should produce dislocation of the kidney. Then followed two attacks of abdominal inflammation, both, as evidenced by the irregular menstruation, seriously affecting her pelvic organs. What more likely than that this mobile kidney, troubled by alternate distension to pain and collapse, already probably hydronephrotic, should suffer seriously from these attacks of surrounding inflammation (peritonitis)? The hydronephrosis becoming a pyonephrosis in one or other of them, whether tuberculous or simple inflammatory. The kidney was gradually destroyed without attracting much attention, and during this time she bore two children, both of whom died young and one from undoubted phthisis. The destroyed kidney passes into the background, while the ovaries in their more active life claimed attention; then the kidney, pressed down and irritated by the constant vomiting, again became palpable and painful. The slimy matter in the urine after the course of massage explains why the kidney was not a prominent feature at the time of my first examinations: its contents had been pressed out through the ureter, and in a flaccid condition such a soft bag as it was would readily escape touch when examining the abdomen unless it was tender and so called attention to its presence. I may mention that the irregular uterine losses gradually came less often and then ceased, a sequence I have before noted in cases in which small portions of ovarian tissue were left behind and were presumably the cause of the irregular metrostaxis. The commencement of the vomiting, when she first began to wear a tight abdominal belt and move about after three weeks' perfect quiet on her back, is much easier to understand than the sudden cessation, and the sudden recommencement when she appeared to be in perfect health.

CASE 32.—This is a very unfortunate case and its record is one which may, I hope, help both myself and others to avoid attempting surgery in similar cases. A woman aged forty-three years, single, consulted me in June, 1889, as to a large swelling in the abdomen. She had first noticed some swelling in the same situation ten years before her visit to me, and could not in any way account for its commencement. She suffered much from constipation and from an irritable bladder, having to get up during the night to pass urine, and sometimes frequently. Menstruation had commenced late and was always excessive. The urine was of low specific gravity 1009, hazy, barely acid, and contained an eighth of albumen. Seventy-three ounces passed in twenty-four hours contained 245 grains of urea. Another specimen examined three weeks later contained nearly a

quarter of albumen and some red blood cells. I came to the conclusion that the case was one of sarcoma of the right kidney, and in this diagnosis Sir Andrew Clark, who saw the case with me, concurred, and we advised its removal. The left kidney was also distinctly large, but this I thought was probably due to compensatory hypertrophy. The slow growth of the tumour made me hope that it was a sarcoma of the capsule, or of the supra-renal capsule, similar to others in which I had obtained excellent results by operation. It was a very soft kidney and there was an indistinct fluctuation, or thrill, which rather suggested that some cystic change was taking place. I operated on July 11th, 1889, by Langenbüch's incision, and as soon as I had exposed the kidney saw that I had to deal with that rare disease multiple cysts of the kidney. The whole organ was a mass of small cysts crowding upon one another and pressing one another out of shape, so that its exterior presented the appearance of a tessellated pavement. Passing my hand across to the left side of the abdomen I found the other kidney unmistakably in an early stage of the same disease, though there was still in it more healthy than diseased tissue. Clearly I ought to have closed my incision, for I was face to face with an incurable disease of both kidneys, but I thought that, as the one was already practically destroyed and giving her pain and discomfort, she might live longer without it. It enucleated very easily; indeed, I never had a simpler nephrectomy. There was only a small opening in the outer layer of the meso-colon, and this seemed to lend itself so well to complete shutting off from the general cavity of the peritoneum that I sutured it into the abdominal wound and drained the sac with a glass tube, a second mistake, as will be seen immediately. By tapping successive cysts I obtained four pints of fluid from the kidney, and it was still very large when I removed it. The vessels were tied separately and the ureter pinned out beside the sac. The patient began to retch directly after the operation and vomited persistently till I reopened the wound on the fourth day and found an immensely distended cæcum pressing on and obstructing the ileo-cæcal valve, the whole being due to the hooked-up position of the ascending colon from my sutures. I need not give in detail the downward progress of the case during these four days; it was unmistakably a case of obstruction, but I hesitated to reopen the wound, partly because we got large actions by gruel and turpentine enemata, though never any passage of flatus, and partly because I feared the effect of a further operation on the remaining kidney. There was no fever all through, but on opening and emptying the cæcum I found a patch of gangrene the size of a sixpence where the pressure had been most severe; this was excised and the incision closed with a row of Lembert's sutures, a second row of interrupted sutures bringing the peritoneal surfaces together as a support, my incision into the cæcum being closed in the same way. On putting a tube into the pelvis to more thoroughly drain the peritoneum I found that it was blocked with adhesions, the uterus, ovaries, and bowels being all bound together, and I then learnt for the first time that the patient had nearly died from obstructed intestine once before. The one kidney continued to work well, but she did not rally well from this second operation, and she died quite suddenly on the following day while telling me in a good strong voice about her previous illness.

I made two or perhaps three mistakes in this case. 1. I ought to have closed my incision when I found what the nature of the disease was. 2. I ought not to have sutured the edges of the sac into my peritoneal wound. I have over and over again decided that this is bad practice, and yet now and again some specially favourable case for shutting off the peritoneum tempts me to try it once more. In this case it caused a fixed bend in the ascending colon, which dragged upon the cæcum already held below by pelvic adhesions, and the more it distended the more it tended to close the ileo-cæcal valve. 3. I ought to have had the courage of my opinion and reopened the wound and freed the bowel sooner—i.e., directly I became convinced that there was obstruction. There is no condition in surgery in which hesitation and delay are likely to take away the chance of success so decidedly as in acute obstruction of intestine, and there is no condition in which patience and waiting, with a judicious use of atropine and morphia and of turpentine enemata, are so likely to be rewarded as in chronic obstruction, especially if it is in the very smallest degree incomplete.

(To be continued.)

THE INFLUENCE OF THE FORCE OF GRAVITY ON THE CIRCULATION.[1]

BY LEONARD HILL, M.B. LOND.,

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THE effect of position of the body upon the circulation of the blood is a matter of daily observation with the physician and surgeon, but it has been curiously neglected by physiologists. So far as my researches into the history of the subject go the mere facts that the feet-down position lowers arterial pressure and that the feet-up position heightens it are almost all that has been determined. In 1885 Hermann placed the subject in the hands of two pupils, Blumberg and Wagner, with the object of investigating the dynamic and hydrostatic effects of gravity on the circulation. The hydrostatic moment is the altered relationship of level between the given spot on the artery (where the manometer is placed) and the rest of the vascular system. The dynamic moment is the altered relation between pressure and resistance produced indirectly by the change of position on the heart beat, the filling of the heart, the vaso-motor nerves, &c. Hermann instructed his pupils to find the indifferent point of the circulatory system, in order that the hydrostatic effect might be eliminated and the dynamic effect alone studied. Blumberg and Wagner determined the indifferent point by filling the circulatory system of the dead animal with salt solution and then by shifting the position of the axis round which the body was turned. I have found that on attempting, according to Wagner's method, to fill the circulatory system of the dead animal with salt solution the arterial part of the system does not remain filled, for the salt solution rapidly leaks into the splanchnic venous area. By alternately placing the animal with feet down or with feet up a pumping action is produced which gradually forces the salt solution out of the arterial system into the venous side, where it remains. The indifferent point cannot, therefore, be found on the dead body. Further, if it were possible to find the indifferent point on the dead body, the indifferent point on the living body could not be deduced therefrom, because such indifferent point depends on the coefficient of elasticity, which must constantly alter in the living animal with every alteration of the arterioles by vaso-constriction or dilatation. As regards the dynamic effect of gravity on the circulation, therefore, the work of Blumberg and Wagner cannot be accepted. My attention was first drawn to the influence of gravity upon the circulation by observations which I made upon the normal intra-cranial tension in a patient under the care of Dr. Claye Shaw. The patient had been trephined, and Dr. Shaw asked me if I could estimate his normal intra-cranial pressure. I did so by an adaptation of the method for investigating intra-cranial pressure described by me in the Proceedings of the Royal Society, vol. lv. I found that the pressure was negative while the man sat upright, but that it became positive as soon as the head was bent down towards the knees, and on any expiratory effort. The air-bubble index in the apparatus exhibited large cardiac and respiratory undulations. Experimenting on dogs, I found that exactly the same thing occurred. The normal cerebral pressure became markedly negative in the feet-down posture and positive in the feet-up posture. For the further investigation of the subject I constructed an animal holder which could be swung round a horizontal axis. In this axis the cannula connected with the vessel under observation was always placed, and the cannula itself was connected with a fixed hydrostatic manometer. The "hydrostatic and dynamic moments," to use Hermann's expression, were investigated and separated, not by attempting to find the indifferent point, but by carefully observing the effects of dividing and stimulating the vagus and splanchnic nerves and spinal cord, and by watching the influence of anæsthetics, curare, and asphyxia. The research has been carried out upon rabbits, cats, dogs, and monkeys, and the same general results have been obtained from all. The animals were anæsthetised in all the experiments, and were placed upon a board with the limbs fully extended in the same direction as the longitudinal axis of the body. The experiments group themselves under the following headings:

I. *Effects on the circulation.*—1. Normal effect on arterial

[1] Abstract of a paper read before the Royal Society.

pressure: (*a*) with carotid artery in axis, (*b*) with femoral artery in axis, (*c*) with splenic artery in axis. 2. Normal effect on venous pressure: (*a*) with splenic vein in axis, (*b*) with femoral vein in axis, (*c*) with torcular Herophili in axis. 3. Influence of anæsthetics. 4. Effect of dividing the vagi. 5. Effect of dividing the spinal cord: (*a*) influence on heart. 6 Effect of dividing the splanchnics. 7. Influence of respiration and asphyxia. 8. Influence of curare.

II. *Effects on respiration.*—1. Normal effects. 2. Effect of dividing the vagi.

The venous pressures were recorded by means of a manometer filled with saturated sulphate of magnesia solution and placed in connexion with a delicate tambour or piston recorder. The cerebral venous pressure was taken in the torcular Herophili by the method described by me in the before-quoted paper. The respiratory tracings were taken by means of a broad band of strapping passed round the thorax and connected to either side of a Paul Bert tambour. The changes of position prevented the use of any more accurate method for recording the respiration. The results of the research are shown in a series of tracings, from which the following conclusions are drawn:—(1) That the force of gravity must be regarded as a cardinal factor in dealing with the circulation of the blood; (2) that the important duty of compensating for the simple hydrostatic effects of gravity in changes of position must be ascribed to the splanchnic vaso-motor mechanism; (3) that the effects of changing the position afford a most delicate test of the condition of the vaso-motor mechanism; (4) that the amount of compensation depends largely on individual differences; (5) that the compensation is far more complete in upright animals, such as the monkey, than in rabbits, cats, or dogs, and, therefore, is probably far more complete in man; (6) that in some normal monkeys over-compensation for the hydrostatic effect occurs; (7) that in the normal monkey and man gravity exerts but little disturbing influence owing to the perfection of the compensatory mechanism; (8) that when the power of compensation is damaged by paralysis of the splanchnic vaso-constrictors, induced by severe operative procedures or by injuries to the spinal cord, by asphyxia, or by some poison such as chloroform or curare, then the influence of gravity becomes of vital importance; (9) that the feet-down position is of far greater moment than the feet-up position, because when the power of compensation is destroyed the blood drains into the abdominal veins, the heart empties, and the cerebral circulation ceases; (10) that, generally speaking, the feet-up position occasions no ill consequence; (11) that the horizontal and feet-up positions at once abolish the syncope induced by the feet-down position by causing the force of gravity to act in the same sense as the heart, and thus the cerebral circulation is renewed; (12) that firmly bandaging the abdomen has the same effect (while the heart remains normal, and so long as the mechanical pressure is applied to the abdominal veins, the pressure cannot possibly fall); (13) that if the heart is affected, as by chloroform or curare poisoning, the restoration of pressure is incomplete, and it is possible that the heart may be stopped altogether by the inrush of a large quantity of blood, caused by too rapid an application of pressure on the abdomen (more work would be thrown upon the heart than in its impoverished condition it could perform); (14) that vagus inhibition and cardiac acceleration are subsidiary compensatory mechanisms in the feet-up and feet-down positions respectively; (15) that chloroform rapidly paralyses the compensatory vaso-motor mechanism and damages the heart; (16) that ether, on the other hand, only paralyses the compensatory vaso-motor mechanism very slowly and when pushed in enormous amounts; (17) that the vaso-motor paralysis induced by these anæsthetics lasts for some considerable time after the removal of the anæsthetics; (18) that chloroform can, by destroying the compensation for gravity, kill the animal if it be placed with the abdomen on a lower level than the heart; (19) that elevation or compression of the abdomen immediately compensates for the vaso-motor paralysis produced by chloroform; (20) that compression or elevation of the abdomen, coupled with artificial respiration and with squeezing of the heart through the thoracic walls, is the best means of restoring an animal from the condition of chloroform collapse (these results agree entirely with McWilliams', and are opposed to those of the Hyderabad Commission); (21) that the feet-down position inhibits respiration, and the feet up position accelerates it; (22) that these respiratory results probably depend upon the stimulation of sensory nerve endings by changes of tension brought about by the alterations of position, because the results are abolished by dividing the vagi; (23) that in the feet-down position the respiration is thoracic in type, and the abdomen is retracted; in the feet-up position the respiration is diaphragmatic and the abdomen freely expanded; (24) that these types of respiration tend to compensate for the effects of gravity on the circulation, for the retraction of the abdomen in the feet-down position mechanically supports the abdominal veins, whilst the thoracic inspirations aspirate blood into the heart. In the feet-up position the full and free expansion of the abdomen withdraws all obstacles to the compensatory dilatation of the abdominal veins.

[In the last part of the paper the medical aspects of this research are discussed. It is suggested that emotional syncope is due to paralysis of the splanchnic area, and a case is quoted where compression of the abdomen immediately removed the syncopal condition. The same treatment, or that of elevation of the abdomen, is suggested for conditions of shock, chloroform collapse, and after severe hæmorrhage. Finally, a parallel is drawn between some of the results of this research in reference to monkeys and those obtained by Dr. George Oliver on man, by measuring the diameter of the radial artery with his ingenious instrument, the arteriometer.]

A CASE OF MYOSITIS OSSIFICANS.

BY STEPHEN PAGET, M.A. OXON., F.R.C.S. ENG.,
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THE patient is a boy aged seven years and six months, thin and small, but fairly strong and active, and very intelligent; his general health is not impaired. His father, aged about forty years, is in good health and has never suffered either from gout or from rheumatism, but the boy's grandfather and grandmother both had rheumatic fever twice. The child's mother, aged about thirty-five years, is in good health, and has never had rheumatism; but her mother had rheumatic fever. One of her sisters died from cancer of the breast, and another died at the age of thirty-eight from "ulceration of the bowels." The patient is the eldest of three children; the others are healthy and have no deformity of the toes. The mother has not lost any children, and has never had a miscarriage. The boy was healthy during the first years of his life. He had measles when six years and six months old. The deformity of his toes was noticed a week after birth. There is no history of any injury preceding his present disease. It began with a swelling behind the left ear when he was four years and six months old. The growths of bone in the pectorals and down the spine came early in the disease. His mother is certain that the growths used to shift their places, disappearing at one place and appearing at another; but their appearance does not seem to have been preceded by pain or swelling.

Condition in 1892.—The patient was at this time five years and nine months old. (Dr. Rayner of Stockport, who has kindly allowed me to publish this case, let the child be under my care in the Metropolitan Hospital in the summer of 1892.) The following note was made at the time: "He holds his head in the position of wryneck, from contraction of the left sterno-mastoid. In each pectoral muscle, at the anterior fold of the axilla, are irregular bony nodules moving slightly with the muscles. On the right side these nodules are felt all over the pectoral muscle and are especially marked towards its insertion; here they are continuous with plates of bone under the deltoid and along the latissimus dorsi. Nodules are also felt on the origin of the serratus magnus. The latissimus dorsi presents a sharp ridge in the axilla, and is hard, but not prominent, down to the angle of the scapula; and there are two prominent masses, not fixed to bone, beneath the angle of the scapula. The scapular muscles themselves do not appear to be affected. On the left side the pectoral muscle is also infiltrated with bone; it is more nodular than the right pectoral, and the bony growths towards its insertion are more prominent. They are continuous, as on the right side, with bone in the fascia beneath the deltoid, and, though this is not quite certain, with the latissimus. The disease in the left latissimus is

most apparent below the inferior angle of the scapula; but it is less marked here on the left side than on the right. The left biceps is also affected. Crepitus is felt

FIG. 1.

To show the contraction of the left sterno-mastoid, the masses of bone in the latissimi dorsi, and the extreme amount of abduction of the arms obtainable.

FIG. 2.

To show the abduction of the arms—front view.

when these growths are moved. Down each side of the spinal column is a hard ridge, more marked on the left side than on the right, which seems to be part of the latissimus dorsi. The trapezius is healthy. In each posterior triangle of the neck there is an ill-defined hardness. The right sterno-mastoid is healthy; the left is very much shortened, but no bone is felt in it save one very small nodule in its anterior edge, about an inch above the clavicle. From the anterior fold of each axilla, between the nipple line and the axillary line, a hard vertical cord, about the thickness of a No. 4 or 5 English catheter, runs straight down over the ribs and the abdominal wall, and fades away about the level of the iliac crests. The right cord is somewhat more distinct than the left; they are slightly movable and hard, but not so rigid as bone; they feel to the touch like the diseased lymphatics of cancer or like very atheromatous arteries. There are no bony growths either on the head, or in the abdominal muscles, or on the lower limbs." The child was in hospital for several weeks. Dilute phosphoric acid was given, but with no result.

Condition in 1894.—The patient has lately made a good recovery from a mild attack of scarlet fever. Figs. 1 and 2 show that the disease has advanced very slowly. The cords which ran down from the axillary folds have disappeared. The

FIG. 3.

To show the congenital deformity of the toes.

masses of bone are more fixed than they were, and most of them appear to be closely united to the skeleton. The breathing is almost wholly abdominal; the ribs move very slightly on deep inspiration. There is some enlargement of the right os calcis. The patient has deformity of the great toes; they are shortened and drawn inward toward the middle line of the foot, so that they come beneath and behind the second toes. The proximal phalanges seem small and ill developed. The heads of the first metatarsal bones are large. There is no deformity of the thumbs. The child has of late been taking thyroid extract, but without any result.

As regards the child's family history, it is curiously like that of the child whose case is recorded in vol. xix. of the Transactions of the Clinical Society of London. In that case the father was somewhat rheumatic; the paternal grandparents both suffered much from rheumatism; the maternal grandfather was said to have died from cancer in the chest. The congenital deformity of the toes, as is shown in Fig. 3, is exactly as it has been described in other cases of this rare

disease. It proves that we have to do with a disease that is congenital, but latent during the first years of life, and it may be reasonable to suppose that rheumatism in the father's family and cancer in the mother's family may work together to cause it. The appearance and disappearance of the hard vertical cords down the front of the trunk are worthy of note. It is possible even that the present fixity of the ribs may disappear. In a similar case in my father's practice, in 1883, the ribs were firmly fixed. Ten years later—in 1893—the patient wrote to him: "The whole front, from throat to pelvis, is much better. I remember your gesture of despair when you found no movement of chest and sides on my drawing a breath. Now the chest and sides move very well—not properly, of course, but not badly." This patient has been for some years under Mr. Horsley's care, who kindly lets me refer to the case. He has steadily taken salicylate of soda.

Wimpole-street, W.

CASES ILLUSTRATING THE RESULTS TO THE EMPLOYÉS OF IMPERFECT VISION TESTING ON RAILWAYS.

BY W. M. BEAUMONT, M.R.C.S. ENG.,
SURGEON TO THE BATH EYE INFIRMARY.

THE two following cases show, in the first place, the danger to which the travelling public are exposed by the present modes of vision testing adopted on most of our railways; and, in the second place, they exemplify the hardships which may ensue to those employés who have been imperfectly examined as far as their sight is concerned when first joining a railway company's service. The labours of a committee of the British Medical Association have aroused the companies, and alterations which are not improvements in any marked degree have been made on some of the lines. Unfortunately the Board of Trade have no power to compel the railway officials to adopt a uniform, or in fact any, standard, nor can they insist that the tests shall be applied by qualified medical men. In this matter the Board of Trade are all-powerful to recommend and all-powerless to order.

CASE 1.—A man joined one of our most extensive railway companies eleven years ago as a cleaner. No test was applied to his sight then, but seven years ago, when he hoped for promotion, he was examined by a superintendent and failed to pass his test. As a consequence he was put on shed work and has been kept on it ever since. His wages now, including extra work, are £1 4*s.* 3*d.* a week., with little chance of increase. Had he remained on the line he might have risen to £2 5*s.* a week. On examining him a fortnight ago I found his vision to be—right eye, $\frac{6}{18}$, left eye, $\frac{6}{9}$. There was compound hypermetropic astigmatism, five dioptres in one meridian and three in the other. With correction his vision could be brought up to the normal standard. Whether officials should be allowed to wear glasses is a question which seems to be worthy of consideration. In hypermetropes and those with hypermetropic astigmatism, where vision can be improved to the normal standard, there seems to be no great objection to them for certain duties. Certainly, he who with spectacles can see $\frac{6}{6}$ is likely to be more efficient than he who without them can only see $\frac{6}{9}$; and at present on many lines they are content to admit men who have only $\frac{6}{12}$. Hypermetropia and hypermetropic astigmatism are not usually conditions which are progressive, and in them there is no reason to anticipate future deterioration. Hypermetropes, it is true, are more likely to develop glaucoma, but this is a rare contingency; and if all hypermetropes are to be excluded from railway service where shall we find the supply of emmetropes equal to the demand, for it is manifest that myopes must be ineligible? On some foreign railways the use of spectacles is common, and the objection that the glasses may become obscured by condensation at a critical moment does not appear to arise. With regard to myopia it is to be remembered that it is a condition of refraction which cannot become less, but which most probably will increase, and which glasses very frequently cannot altogether neutralise.

CASE 2 is that of a colour-blind man who joined another of our large railway companies in 1864 as porter. He was examined as far as distant vision was concerned, and found to be capable of counting the dots, but no test of his colour sense was applied. In 1871 he was appointed guard to a goods train, but no re-examination of his sight was made. In 1876 he was promoted to be passenger guard, when again no test was applied. In November, 1893, in consequence, he said, of an order from the Board of Trade, his vision was tested by an inspector, and he failed to distinguish between red and green. He was taken off duty for a fortnight and then received an order to resume his employment as guard, no further examination of his sight having been made. In September, 1894, without any warning or testing, he was removed from his post and made a ticket collector; his wages at the same time were reduced from £1 7*s* a week to £1 3*s*, with no chance of an increase. Had he remained a guard he might have risen to £2 a week; but now, at the age of forty-eight, when he might fairly hope for a little more money and a little more comfort, all his prospects in life are suddenly blasted, and more than thirty years' faithful service, in consequence of the company's negligence at the outset, are rewarded by an atrophy of pay and a stasis of promotion. Here, then, we have a man quite incapable of distinguishing the most vivid red from the most verdant green—a "guard," as the great railway company under which he serves paradoxically call him—travelling up and down their line week after week, month after month, for twenty-three years. It would seem to an outsider to be a more accurate term if they called him a "passenger."

Cases such as those to which I have referred are not rarities in ophthalmic practice; they come before us again and again. The railway companies laugh at our remonstrances and ask for proof that accidents have occurred in consequence of the imperfect vision of their servants. The public refuse to be awakened, and until some serious calamity occurs it is probable that no change will be made.

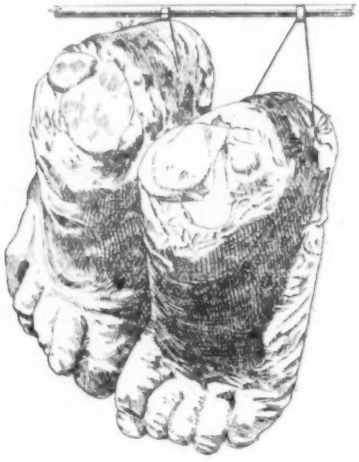
Bath.

A CASE OF RAYNAUD'S DISEASE OR NEUROPATHIC GANGRENOUS TROPHONEUROSIS OF THE LOWER EXTREMITIES.

BY JOHN HAROLD, L.R.C.P. LOND., M.R.C.S. ENG.,
MEDICAL REGISTRAR, CHARING-CROSS HOSPITAL.

A PALE, weak, and ill-nourished boy aged four years and one month was admitted to Charing-cross Hospital on June 24th, 1887, as a case of Raynaud's disease. His parents were healthy and the patient presented no manifestations of syphilis, and had previously enjoyed very good health, nor had he ever had chilblains. There was no history of shock, of fits, or of paroxysmal dyspnœa. The mother's confinement was natural. On June 12th he complained of severe pain in the left big toe and of tenderness of the left ankle, but no objective physical signs were detected. Nine days later the left ankle was noticed to be discoloured and the middle toe of the right foot and the right ankle were cold and of a bluish tinge. The right wrist was tender. The tip of the nose and helices of both ears were normal. On June 24th the left foot as far as the tarso-metatarsal articulation was of a lilac or purple colour, the colour being most marked on the dorsal aspect, increasing in intensity towards the toes, the ends of these being almost black and the nail bed of each toe being livid. The affected areas were quite cold and anæsthetic, the upper limit of discolouration being encircled by numerous small bullæ; the junction area of normal and abnormal tissues being very painful. The toes of the right foot presented a somewhat similar discolouration. Just below the right external malleolus a purplish-looking spot about the size of a shilling was noticed, as also a similar one immediately below the internal malleolus. The nerve trunks of the upper and lower limbs were not tender on pressure, and no trophic disturbances were noticeable on the thighs, arms, or forearms. The wrists showed no signs of discolouration. Pulsation could be detected in the posterior tibial and dorsalis pedis arteries. The urine was non-albuminous, non-saccharine, and there never was hæmoglobinuria. The eyes were normal and there was no tendency to conjunctivitis. The purple colour of the dorsum of the left foot was, on June 29th, replaced by a reddish colour, especially along the first

metatarsal bone, the temperature rising to 101° F. On July 1st the right foot was generally very much discoloured, of a dusky purple colour, shading off towards the normal skin into a violet or pinkish hue. The affected areas were very tender, the patient strongly objecting to their being touched. He was very restless and kept constantly moaning. The end of the ring finger of the left hand became discoloured on July 2nd; the nail bed looked cyanosed, the skin of the dorsum of the hand being of a deep dusky hue. Small phlyctenæ were noted on several of the toes. The pulse in the left radial artery could easily be felt; it was regular and of good force. The patient was better subjectively on July 3rd and the affected areas were less painful, the left ring finger being no worse. The right thumb and right fore-finger presented a mottled pink appearance, but no improvement was manifested in the feet. The left foot was of a lobster tint, the ends of the toes being quite black and shrivelled. A large collar of various sized bullæ surrounded the left ankle. On July 9th the affected fingers were diligently fomented. The toes of both feet were mummified and were of a mahogany red tint; the bullæ about the ankles ruptured, leaving an offensive-smelling surface. The patient was kept under the influence of morphine, and the gangrenous areas treated antiseptically. The hands were apparently well by July 12th, but the toes had become of a blue-black tint. On July 20 the plantar aspect of the left foot was black, and its toes much shrivelled. A deep and clearly defined line of demarcation was evident at both ankle-joints, the ligaments of the joints were exposed, and the pain unabated. In about



a week's time spontaneous amputation of both feet had occurred, no surgical interference being required. The boy afterwards suffered from abscesses about the left hip and other parts, but eventually made a satisfactory recovery and seemed apparently none the worse in general health from his serious illness. The following points of interest were also noted. The heart and lungs were normal; the spleen was not palpable. The ungual phalanges showed no tendency to clubbing; the patient had not a high palate, and there was no muscular wasting, and at no time was there any effusion into the affected joints. The tips of the fingers and toes did not show any evidence of scars—little scars at or near the nail on the pulps of the fingers and toes being, as is well known, characteristic evidence of antecedent attacks of Raynaud's disease.

Remarks.—In the case just recorded the usual etiological factors in the causation of the affection could be eliminated, such as constitutional diseases, toxic agents as ergot and arsenic, febrile disorders, injury, and frost-bite. Writing on Raynaud's disease, Lanceraux[1] says: "Without pretending that all symmetrical gangrenes of the extremities have a toxic origin, I affirm that the symmetry of these lesions is an almost unerring indication of the toxic nature of the original cause of the affection." The perfect symmetry of the affection in this case would accordingly be indicative of a toxic origin, and manifestly implies that the condition owned a general and not a local causation. From the point of treatment the absence of objective signs before the actual appearance of gangrene and the presence of subjective symptoms as pain are noteworthy in the prodromal stage, as possibly benefit might follow the administration of vaso-dilators. It is by no means uncommon to meet with cases of Raynaud's disease as young as this patient. The late Dr. J. E. Morgan of Manchester[2] collected and analysed 93 cases. Of these the youngest was two years and a half old, and the oldest fifty-nine years; 54 were females and 39 were males. Twenty-four of the 93 cases were under the age of ten years, and the younger the patient the more acute was the disease. Mr. D'Arcy Power[3] recorded a case in a girl aged four years and eight months. Dr. Abercrombie,[4] in an interesting and instructive paper, has commented on the relation of hæmoglobinuria, malaria, and jaundice to attacks of Raynaud's disease. As already mentioned, nothing abnormal was noticed in the urine in this case, and no polyuria was recorded. In the case of two children suffering from Raynaud's disease Dr. Haig[5] noted an excessive excretion of uric acid, and that the renal vessels were apparently constricted at the same time as the cutaneous. In a contribution to the subject of idiosyncrasies Dr. Solomon Solis-Cohen[6] designates by the term "vasomotor ataxia" the condition of instability of the mechanism of the circulation present in certain individuals, and which is characterised by an abnormal readiness of disturbance, with tardiness of restoration, of the equilibrium of the cardio-vascular mechanism. Among the recognisable exciting influences he mentions temperature, especially cold, emotion, reflex excitation of an internal or visceral origin, and various toxic agencies. Vaso-motor ataxia, he considers, may be acquired, congenital, or inherited. It is often present in several members of the same family, and may in some cases be characterised by paretic phenomena; in others it may be of a spasmodic character. Thus, in Raynaud's disease, we have in the "local syncope" stage an example of the "constrictive" variety type. Cases of Raynaud's disease are not infrequently associated with various cutaneous affections, such as urticaria, mottlings, scleroderma, and telangiectases, but the present case was not associated with any such trouble. Mr. Hutchinson[7] has recorded cases of symmetrical gangrene of the extremities with scleroderma, and also cases of diffuse morphœa, preceded by conditions resembling Raynaud's disease; and he considers that we can gather round the interesting condition of neuropathic gangrene a family group of other conditions of equal interest and allied to it. The treatment adopted in the case related consisted in the free employment of morphine to subdue the pain and quiet the nervous system, the gangrenous areas being treated antiseptically. There was no reproduction of the gangrene in the stumps or in their vicinity, and the patient is now in the enjoyment of excellent health.

I am indebted to Dr. Mitchell Bruce for kind permission to publish this case.

Harley-street, W.

[1] The Medical Week, vol. ii., No. 26, p. 501, 1894.

[2] THE LANCET, July 6th, 13th, 20th, and 27th, 1889.
[3] THE LANCET, July 28th, 1893.
[4] Archives of Pediatrics, October, 1886.
[5] St. Bartholomew's Hospital Reports, 1892.
[6] American Journal of the Medical Sciences, February, 1894
[7] Archives of Surgery, vol. ii., 1891.

A CASE OF HYDROPHOBIA.

BY SAMUEL LODGE, L.R.C.P. EDIN., M.R.C.S. ENG.

A BOY aged three years and five months was bitten by a dog in the palm of the right hand about two months before I saw him. He was immediately after being bitten taken to a druggist and the wound was freely cauterised. The hand and arm became inflamed, requiring to be poulticed for two or three days. After that time the wound healed, but the boy continued restless, jerking his limbs when he slept and moaning from time to time. He appeared to be pretty well, however, playing about as usual during the day. There remained a hardened spot on the hand all the while, which the child said was always painful. Nothing more particular was observed till Sunday, Jan. 13th. On the morning of that day the patient complained that his throat was bad, and in the afternoon a medical man was sent for. Some medicine was supplied, but not a drop was taken; he

tried many times to swallow a dose, but did not succeed. The next day the medical attendant was informed of the dog-bite for the first time; he did what he could to encourage the parents, who were much alarmed, and in their excited state it appears they actually forgot to tell him that the boy could not swallow the mixture. I was sent to the case on Jan. 14th at 3 P.M. The little patient was clinging very closely to his mother's neck; he made some inarticulate sounds and seemed greatly excited; he struggled continuously, but did not loosen his hold on the neck of his mother for an instant. A young woman washing dishes at a table near was splashing water about rather noisily. She desisted at my request, when the suffering child became quiet, relaxed his clasp, and smiled. There was a little girl in the room who now approached him. He gently stroked her face and hair, saying "Mary, Mary." After about ten minutes had elapsed a teaspoonful of water was offered him, but he no sooner saw it than he clenched his teeth and screamed. This was tried many times and in various ways, but he could not be induced to swallow the smallest quantity. He did himself try once or twice, but the effort was too great and ended in the same way. The jaws became fixed. There was spasmodic contraction of the thoracic muscles, and inarticulate cries. Exactly the same effect was induced by the mother of the child drinking some water when she endeavoured to persuade him to swallow. After every paroxysm there was a flow of saliva; sometimes viscid, sometimes frothy, and at other times watery. A clean handkerchief was handed to him, which he used unceasingly, wiping the mouth, and occasionally twisting and thrusting it into the throat till he appeared to be almost suffocated. When an opportunity occurred I examined the boy according to rule. The tongue was white and enlarged; the pulse was 100 and of fair volume; the temperature did not appear to be high (I could not ascertain it precisely, of course). The pupils were widely dilated. The expression of countenance was gentle and dreamy. The respiration was natural. The examination described in these few words was made at intervals and with great difficulty. The friends were recommended to have the case removed to the infirmary, and on this step being objected to Dr. W. A. Evans, medical officer of health for Bradford, was communicated with. My friend saw the patient in my absence, and thus had the opportunity of forming an independent judgment. At 5.30 P.M. my assistant, Mr. W. M. Muat, saw the child and observed the same train of symptoms. Perfect quietude was observed in the house. The patient frequently held out his hands for the glass of water always in readiness, but directly it was passed towards him he became violently convulsed. At 11.30 the same night he was visited again; he was then sitting on the couch in a peculiarly excited condition, tearing a newspaper into small pieces and talking incoherently; if his attention was suddenly attracted he became sensible for a moment, but relapsed immediately. He was never still, raising himself from his seat and falling back continually. Saliva was running from the mouth all the time; this he wiped away in the manner before described, forcing the handkerchief into the mouth and occasionally clutching his throat with both hands. The poor child expired quite suddenly about three o'clock next morning. There was no inquest.

I ought to mention that the dog, having bitten the child, was tied to a chair in the house of its owner, where it contrived to strangle itself. The body of the creature was sent to one of the destructors, so we had not an opportunity of examining it.

Bradford, Yorks.

THE REMOVAL OF PATIENTS TO ISOLATION HOSPITALS.[1]

BY G. H. FOSBROKE, M.R.C.S. ENG., D.P.H. CAMB.,

COUNTY MEDICAL OFFICER FOR WORCESTERSHIRE, AND PRESIDENT OF THE WORCESTERSHIRE AND HEREFORDSHIRE BRANCH OF THE BRITISH MEDICAL ASSOCIATION.

As the question of providing isolation hospitals is now coming prominently to the front, and I have been officially connected with two such institutions in rural districts for many years past, it occurs to me that my experience with regard to the distances patients suffering from infectious diseases can be safely removed to hospital may be of interest to some. Having carefully considered the question, I have come to the conclusion that, assuming the locality to be non-mountainous, the highways good, and suitable ambulances (with attendant nurses) provided, such persons may without harm be removed as far as eleven or even twelve miles. Table I. shows the distances patients have been removed to six hospitals in Worcestershire and Warwickshire.

TABLE I.

—	Alcester.	Evesham.	Kidderminster.	King's Norton.	Solihull.	Warwick.	Total.
Under 1 mile	302	9	11	—	39	—	361
From 1 to 2 miles ...	73	61	28	85	95	268	610
,, 2 to 3 ,, ...	67	4	741	331	138	—	1281
,, 3 to 4 ,, ...	—	26	57	311	75	1	470
,, 4 to 5 ,, ...	205	64	8	104	145	20	546
,, 5 to 6 ,, ...	362	72	7	274	16	55	786
,, 6 to 7 ,, ...	138	17	—	22	11	—	188
,, 7 to 8 ,, ...	42	2	20	3	16	7	90
,, 8 to 9 ,, ...	3	—	6	—	19	21	49
,, 9 to 10 ,, ...	2	—	2	—	11	9	24
,, 10 to 11 ,, ...	—	—	—	15	3	36	54
,, 11 to 12 ,, ...	—	—	—	7	18	—	25
Total	1194	255	880	1152	586	417	4484
Population of hospital district	17154	15072	38258	28300	29822	55200	—
Area in acres of hospital district	55071	47679	35129	22454	48693	68300	—

From this it will be seen that 242 patients in the above districts have been removed distances of from seven to twelve miles. I have selected these hospitals because I am personally acquainted with all of them, and have been officially connected with the Alcester and Evesham Hospitals since their establishment in 1875 and 1887 respectively. The majority of the cases removed to these hospitals were scarlet fever; the remainder were small-pox, diphtheria, and typhoid fever, there being comparatively few of the last named. It has been the custom in these districts for the medical adviser to state whether or not the individual patients are fit for removal and on that certificate the ambulance is sent. Thoroughly good ambulance arrangements and provision are in my opinion absolutely essential. It is by this means that it has been found practicable in London to transport cases of fever and small-pox (for distances equal to and even greater than those above mentioned) to the hospital and hospital ships of the Metropolitan Asylums Board. This has been done now for several years with safety to patients who are certified by their medical advisers to be fit for removal. In my opinion the powers conferred on county councils by Sections 6, 7, 8, and 9 of the Isolation Hospitals Act, 1893, should be utilised in rural and small urban districts to their fullest extent, inasmuch as the constitution of hospital districts including extended areas is generally conducive to efficiency as well as economy. Sections 6, 7, 8, and 9 of the Isolation Hospitals Act just referred to read as follows, viz.:—

"6. The county council may direct an inquiry to be made by the medical officer of health of the county as to the necessity of an isolation hospital being established for the use of the inhabitants of any particular district in the county, and in the event of such medical officer reporting that such an hospital ought to be established for the use of the inhabitants of a district, may take the same proceedings in all respects for the establishment of such hospital as if a petition had been presented by a local authority for the establishment of an isolation hospital for the district named in the report of such medical officer of health.

"7. The county council shall conduct the local inquiry into the necessity for the establishment of an isolation hospital, and as to the proper site for the hospital and the district for which it is to be established (in this Act called the hospital district), by a committee consisting of such number of their members either with or without the addition of such other persons or in such a manner as the council think expedient. All expenses properly incurred by any such committee shall be paid as hereinafter directed. The local inquiry shall be held subject to such regulations and otherwise as the council think fit. Due notice of the time and place at which any inquiry is to be held by the county council shall be given in such manner as the county council may think the best adapted to inform any persons interested, and such persons may attend and state their case before the members appointed to conduct such inquiry.

"8. (1) Every hospital district constituted under this Act shall consist of a single local area or two or more local areas as defined by

[1] A paper read at the Midland Branch of the Society of Medical Officers of Health on Jan. 3rd, 1895.

this Act. (2) The county council may vary any proposed hospital district by adding to it or subtracting from it any local area. A local area which is already provided with such isolation hospital accommodation as may, in the opinion of the county council, be sufficient for the reasonable exigencies of such area shall not without the assent of the local authority of such area testified by a resolution of such authority be included in the hospital district under this Act. (3) If any local authority having jurisdiction within any part of the proposed hospital district object to the formation of such a district or to the addition or subtraction thereto or therefrom of any local area within their jurisdiction, such authority may at any time within three months from the date of the order appeal to the Local Government Board, and the decision of such Board shall be conclusive.

"9. On conclusion of a local inquiry by the county council as to the necessity for the establishment of an isolation hospital, the county council shall make an order either dismissing the petition or constituting a hospital district and directing an isolation hospital for such district to be established. Provided that the county council shall not take steps for the constitution of a hospital district for one or more contributory places forming a portion of a rural sanitary district within the jurisdiction of the county council, or for one local area, unless the sanitary authority of such place or places or area assent to the application or are proved to the satisfaction of the county council to be unable or unwilling to make suitable hospital accommodation for such place, places, or area."

The county council of Worcestershire, after holding an inquiry by a committee of three of its members, one of whom was Sir Douglas Galton, K.C.B., have recently issued an Order (Section 9) grouping six sanitary districts (four urban and two rural), which collectively include an area of 104,973 statute acres and a population of 54,379. The following table gives the area and population of these districts.

TABLE II.

District.	Area in statute acres.	Population.
Bromsgrove country urban district ...	10,593	5,672
Bromsgrove town urban district	1,061	7,854
Redditch urban district	883	11,295
Droitwich urban district	1,705	4,621
Droitwich rural district	52,496	14,221
Bromsgrove rural district	38,227	11,836
Totals	104,973	54,379

The populous parts of this hospital district are for the most part situated to the centre of this area; but, on the other hand, there are two villages of considerable size which will be about twelve miles from the hospital. I propose, for the convenience of the medical officers and friends of the patients, that telephonic communication should be established between the hospital and the offices of the respective constituent authorities. By grouping these districts in this way I was able to show that considerable economy in construction and maintenance would be effected, as well as efficiency promoted, compared with any attempt on the part of the district councils interested to act independently. In conclusion, therefore, I submit that in most rural and small urban districts "grouping" of such areas for hospital purposes is desirable both for financial and other reasons. Furthermore, my experience—which I have recently learnt is corroborated by that of several medical officers of note—induces me to affirm that such a hospital district may often advantageously include a circle having a radius of eleven to twelve miles from the hospital as its centre, provided that the locality be non-mountainous, the highways well kept, the hospital accessible, and that thoroughly good ambulance arrangements are made.

Worcester.

A CASE OF DIPHTHERIA SUCCESSFULLY TREATED BY INSUFFLATIONS AND TABLOIDS OF PURE SULPHITE OF MAGNESIUM.

BY BROWNLOW R. MARTIN, M.B. DUBL.

THE following case, which presents many points of interest, seems worthy of record in the columns of THE LANCET. On Wednesday, Jan. 16th, 1895, I was called in consultation by my friend, Dr. F. F. Moore of Mill-hill-park, to see a girl five years of age. On the previous Sunday, Jan. 13th, Dr. Moore saw this child for the first time, and then found a slight membranous patch on one tonsil, the temperature being 102° F. As this patch continued to increase and spread he, suspecting diphtheria, asked me to visit with him. On our arrival on the afternoon of the 16th the case presented the following appearance. The tonsils, soft palate, uvula, and pharynx were thickly coated with leathery membrane, leaving no doubt in my mind that the surmise was correct. In order to make sure I removed some of the exudation with a sterilised swab and with it inoculated a tube of sterilised blood serum obtained from the Clinical Research Association, and handed it to the patient's father to transmit by post to that society for examination by their experts. I then freely insufflated the throat with pure magnesium sulphite, and Dr. Moore kindly did so three or four times daily, and between whiles the tabloids were administered. The result of bacteriological examination was as follows:—"The culture shows large numbers of typical colonies of diphtheritic growth. Microscopic examination of the culture shows the colonies to consist of almost pure bacillus diphtheriæ; a few streptococci are associated with the bacillus." On visiting again with Dr. Moore on Friday, the 18th, the membrane had completely disappeared with the exception of a small patch not so large as a threepenny piece on one tonsil, and when I visited with him on Sunday, the 20th, every trace of membrane was completely gone. The points to which I would call attention are: 1. As to the child, she was thin, delicate, and anæmic, not in any way gifted with a constitution calculated to inspire one with much confidence as to her inherent ability to successfully combat an enervating disease. 2. Not only were the bacilli of pure diphtheria present, but also some streptococci. 3. No medicine of any kind was administered internally except the tabloids, the treatment relied on being the insufflations. 4. The rapidity of the cure. 5. The complete absence of any sequelæ, which, up to this day, the thirtieth, have not appeared.

Hammersmith, W.

A Mirror OF HOSPITAL PRACTICE. BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

CHARING-CROSS HOSPITAL.

ENUCLEATION OF HYDATID CYST OF LIVER; RECOVERY; REMARKS.

(Under the care of Mr. JOHN H. MORGAN.)

THE treatment of hydatid cysts of the liver has, like most other diseases of that organ amenable to surgical operation, undergone various changes during the past few years. With reference to tapping of such cysts it is interesting to get definite records of cases, and these are supplied by the statistics of Dr. Davies Thomas[1]—411 cases treated with the following result: 163 were reported cured, in 92 the operation failed to cure, in 68 relief was afforded, in 5 no relief was afforded, in 10 the result was unknown, and 73 died. Better results have been obtained by direct incision and drainage, the cyst being stitched to the margins of the abdominal wound. This method has been replaced by the removal of the mother cyst at the time of incision. Dr. J. C. Verco,[2] in a paper on the treatment of hydatid cysts, stated that he has never seen a surgeon in South Australia leave the membranes in a hydatid cavity after it had been opened by incision. He also pointed out that the fear of hæmorrhage should not deter the surgeon, as there is no organic connexion between the cyst wall and the cavity in which it lies.

The patient, a woman aged thirty-eight years, had noticed for four years a fulness unaccompanied by pain in the right hypochondrium. Except for an attack of dysentery in childhood, she had enjoyed good health and had never had jaundice. She had lived in England all her life. On Aug. 9th,

[1] Sajous' Annals of the Universal Medical Sciences, 1894, vol. iii., cap. 5. [2] Ibid., 1892, vol. iii., cap. 25.

1894, she had consulted her medical attendant for an attack of diarrhœa and vomiting, and he, finding the enlargement of the liver, advised her to go to the hospital, where she was admitted on Aug. 16th, under the charge of Dr. Bruce. She was a well-nourished, slightly anæmic woman, and on examination of the abdomen there was found a tumour lying to the right of the umbilicus and extending downwards into the right lumbar region and upwards into the right hypochondriac region. Its upper part sank under the costal margin, so that its extent could not be ascertained; its lower border was a few inches above the symphysis pubis; externally it extended with a convex margin towards the kidney, while internally it reached to the umbilicus. But for a dull heavy weight in the right side, the patient suffered no pain, and she had not lost flesh. She remained for some time under the observation of Dr. Bruce; but as no improvement took place a consultation was held, and Mr. Morgan inserted a trocar, and a very small quantity of clear fluid was withdrawn, which, when examined under the microscope, gave evidence which confirmed the diagnosis of hydatid cyst. It was decided to expose the tumour, and, if possible, to enucleate it. On Jan. 19th, 1895 a vertical incision was made over the tumour in the right linea semilunaris, at first two inches and a half long, but afterwards prolonged upwards to the costal margin and downwards to the extent of five inches. The parietes having been cut through and hæmorrhage arrested the peritoneum was snicked and divided with scissors. The tumour was at once seen, presenting a white shiny opaque wall, free from adhesions on its anterior surface and below. The tissue of the liver spread over a small area in front and projected on both its upper and lower surfaces. The tumour felt extremely hard and firm, and but for the microscopic examination of the fluid previously withdrawn might easily have been taken for a malignant growth, the surface looking greyish-yellow, with numerous superficial vessels. A trocar was inserted, but not more than half a drachm of clear greyish-yellow limpid fluid was withdrawn. At a later stage this proceeding was repeated in the hope of reducing the size of the tumour, but with no better result. The abdominal wound was packed below and on either side with broad, flat sponges, which were frequently changed during the remainder of the operation. The cyst was then cautiously and gradually enucleated. It was free from attachment to the surrounding structures in front, below, and on either side, but above and behind it was intimately connected with the liver substance, and was separated by the fingers with the greatest difficulty. On the outer and lower surface of the tumour there was seen a second prominent, tense, cyst-like swelling as large as a plum and closely connected with the larger tumour, of which it at first appeared to be a prolongation, but after the cyst wall had been slit up to admit the finger this second tumour was found to have no connexion with its interior, and steps were taken to strip it from the larger cyst, to which it was closely adherent. As it came away it was seen to be pear-shaped, with the apex upwards and passing to the hilum of the liver, and was recognised as the moderately distended gall-bladder. During this proceeding several vessels were torn. It being found impossible to separate the tumour from its connexions as it stood, it was opened freely along its anterior surface. No fluid escaped, but at once there poured out hundreds of daughter cysts of all sizes, from that of a pin's head to that of a large cherry, nearly filling a pint bowl. The cyst was emptied with a scoop, care being taken that none of the daughter cysts entered the peritoneum. The cyst wall was then teased away entire, exposing a raw surface of the liver and upper portion of the gall-bladder. Several vessels deep down in the cavity were ligatured, and hot boracic lotion was applied to the wounded surface. The bleeding was not formidable and ceased when hot dry sponges were applied. The wound in the abdominal wall was closed by a number of silk sutures passed through all the layers and including the peritoneum, and sal alembroth gauze and wool and an ovariotomy binder were applied. The operation lasted about an hour. The cyst was nearly as large as two closed fists; the wall was thick and tough and bore considerable traction with strong ovariotomy forceps without giving way. A portion of the outer wall remained attached to the liver, and was removed with scissors. The inner surface was smooth and partly covered by a lining of yellowish gelatinous material, which easily stripped off. The patient slept fairly well after a dose of morphia. There was some vomiting for the first forty-eight hours. Only hot water was given by the mouth, and nutrient enemata were administered per rectum. The temperature did not rise above 99·4° F. The stitches were removed on the tenth day, and she left the hospital perfectly recovered at the end of three weeks.

Remarks by Mr. MORGAN.—The plan which was followed in the above case is a further development of that advocated by Mr. Lawson Tait, and is that which finds most favour with Australian surgeons, whose opportunities for gaining experience in this class of disease are so much more frequent than in this country. No doubt the case described was admirably suited to the plan which was followed, and it would not be possible in many cases to act on similar lines. In a paper by Mr. Wallis in the St. Bartholomew's Hospital Reports[3] there is pointed out the danger of simple puncture, which is often followed by fatal results, which are ascribed as being due either to shock or to some active poison in the hydatid fluid which takes immediate action on the heart or respiration. In Mr. Lawson Tait's operation the sac, having been exposed, is incised and carefully evacuated; the edges of the incised sac are then stitched to the skin, and its cavity is washed out with some non-irritating antiseptic fluid and then sponged dry, a drainage-tube being inserted if thought necessary. This plan has been most successful in the hands of Australian surgeons; but the further development of this method as described in the above case—namely, the complete evacuation of the cyst and the enucleation of the sac where possible of accomplishment—must necessarily be a more satisfactory and radical measure. With proper precautions and good assistance the only danger to be apprehended is from hæmorrhage, and this can to a large extent be discounted by modern methods and the exercise of great care and patience. In the present instance it was never formidable and was soon arrested. It may be noticed that no drainage-tube was used, and that the site of the operation was marked only by a short linear scar, which was found to be firmly healed in ten days. The proximity and intimate connexion of the gall-bladder to the wall of the cyst might have led to serious complications if it had not been recognised. No harm seems to have followed the manipulation which was necessary to separate the adhesions between the two surfaces.

TORBAY HOSPITAL, TORQUAY.

WOUND OF KNEE-JOINT, FOLLOWED BY SUPPURATION; RECOVERY.

(Under the care of Mr. F. T. THISTLE.)

THERE are few cases which call for the exercise of more care and skill on the part of the house surgeon to a hospital than those of suppuration in a large joint such as the knee. They require such unremitting attention and rigid application of certain definite rules of treatment that it is not usually possible for the visiting surgeon himself to fully give them the attention necessary. Even at the present day, when our results are so much better than they were twenty years ago, a suppurating knee-joint is a source of considerable anxiety amidst the best surroundings, and when a useful limb is obtained it is fit subject for congratulation. There are three things which are essential in such cases—adequate drainage, immobilisation of the limb, and an efficient dressing. It would, however, not be right to omit to remind our readers of the credit due to the careful nursing required, more especially in an adult case. In this patient the careful antiseptic treatment with drainage prevented suppuration in the first instance; a secondary suppuration the result of injury is unusual. For the notes of this case we are indebted to Mr. Arthur Watson, house surgeon.

A strong, well-developed man thirty years of age was admitted into the Torbay Hospital on May 19th, 1892. The patient whilst working at a quarry had been knocked over by a mass of rock and had fallen some fifteen or twenty feet, his left knee striking against a sharp point of rock. On admission to hospital a jagged-looking wound one inch in length could be seen on the outer side of the left knee and about two inches from the lower and outer margin of the patella. A copious sero-sanguineous discharge was oozing from the wound and could be pressed out from the under surface and side of the knee-joint. On introducing the

[3] Vol. xviii.

finger into the wound it was found that the knee-joint had been opened, the lower border and under surface of the patella could be felt, and in the same way part of the articular surfaces of the tibia and femur. It was decided to enlarge the primary wound at once, and to make a counter-opening on the inner side of the joint. This was accordingly done, and a drainage-tube passed through and the joint well irrigated with perchloride of mercury lotion (1 in 2000). The limb was fixed on a back splint and a dressing of blue wool, white wool, and carbolic gauze applied. The patient did well and had only a very slight rise of temperature at night, the temperature falling to normal on the eighth day. There was only a slight serous discharge from the wounds for the first four days. The joint was irrigated twice daily with mercurial lotion. One half of the drainage-tube was removed on the eighth day and the remainder five days later. The patient was discharged from the hospital on June 1st with the limb in plaster-of-Paris, and was told to keep the foot off the ground and to walk with the aid of crutches. He came to the hospital several times, and although the left knee-joint was somewhat larger than the right there was no increased heat or pain. On the morning of July 18th he was brought up to the hospital complaining of great pain in the knee. He stated that the night before he tried to walk across his bedroom without crutches and had tripped and fallen heavily on the left leg; this caused intense pain and he could not sleep. On examination the knee was found to be greatly swollen and tense; fluctuation could be obtained; it was extremely painful and tender; the skin round the joint was reddened, and the temperature was 102·2° F. He had had no rigors. He was readmitted to hospital, and on the afternoon of the same day a long hypodermic needle was thrust into the joint, and a small quantity of thin pus withdrawn. The patient was then anæsthetised, and an incision made on each side of the joint, but more posteriorly than the first incisions. The joint was drained as before, and irrigated twice a day. Hot carbolic fomentations were applied every three hours, and he was given a sleeping draught at bedtime. The temperature continued raised for some weeks, being about 101° in the evening, and falling to 99° or normal in the morning. The patient began to lose ground, and it was feared that amputation would be the only resource left. The discharge, however, lessened, and the temperature began to fall. On Aug. 20th the following note was made: "The patient has much improved during the last fortnight; there is now a little serous discharge from the wounds. The knee, although still swollen, is not painful or tender to touch. His temperature has been normal since the 7th; he takes his food well and sleeps well." The patient continued to improve, and left the hospital on Oct. 31st (fifteen weeks since admission). He has continued well ever since, and has for the last few months been following his usual work. The leg is straight; there is very little movement in the joint, but he can do a good day's work and walk long distances without pain or fatigue.

Medical Societies.

PATHOLOGICAL SOCIETY OF LONDON.

Researches on the Pneumococcus, with especial reference to Immunity.—Notes on the Bacteriology and Pathological Chemistry of Pneumonia.

AN ordinary meeting of this society was held on Feb. 5th, Dr. PAVY, F.R.S., President, being in the chair.

Dr. WASHBOURN read a paper on the Pneumococcus, with especial reference to Immunity. He stated that Friedlander's pneumococcus was only of accidental occurrence, and that the pneumococcus of Salamon and Fraenkel was the real cause of the disease. The pathogenic properties of the pneumococcus in the human subject were mentioned. In addition to causing acute lobar pneumonia it was the cause of some cases of lobular pneumonia, other bacteria, especially streptococci, being the frequent cause of the latter disease. The peculiarities of the cultivation of the pneumococci were described. He considered the reaction of the medium and the temperature the most important factors. The cultivations rapidly lost their vitality; exceptions, however, had from time to time been recorded. In one case he found a broth cultivation alive and virulent twenty-three days, and in one an agar cultivation alive and virulent sixty-four days, after being sown. This was possibly due to a spore formation, as believed by Emmerich, whose experiments were described. The short vitality of the pneumococcus rendered investigation difficult. The method of Arkharow and Fca of preserving the vitality in sealed tubes was described. Dr. Washbourn himself had adopted a method used by Pfeiffer for cultivating the pneumococcus on the surface of agar covered with blood. Experiments were quoted to show that on this medium it retained its vitality and virulence for as long as fifty days. Fraenkel and Reiche independently used the same method. The pathogenic effect produced by inoculation of the pneumococcus in different animals was described. Special mention was made of Dr. Washbourn's own extensive experience in the case of rabbits. Intra-peritoneal and subcutaneous inoculation were both employed. After the former peritonitis usually ensued; sometimes with very virulent cultivations no peritonitis was noticed, although the animals died from general infection. Sometimes an animal died from marasmus a long time after inoculation. No cocci are then found in the blood, but in some cases there was a parenchymatous nephritis. The course of the fever and the occurrence of cocci in the blood after inoculation were described in detail. It was not until the temperature began to fall that the blood became crowded with cocci. Of the various methods of producing immunity Dr. Washbourn had generally used that of G. and F. Klemperer by previous injection with heated broth cultivation. The immunity did not occur until twenty days after injection, and disappeared after the thirty-first. The experiments of others with the blood serum of immune rabbits were described, and Dr. Washbourn mentioned his own experiments. He quoted a number of experiments showing that the blood serum when injected with virulent cultivations was protective. In other cases the serum was not protective, and this was due either to the rabbits not being perfectly immune or to the fact that the serum was removed at the wrong date. The experiments of Klemperer with the serum of patients recovering from the effects of pneumonia were described. He (Dr. Washbourn) made but a few experiments and was only able to prolong the life of the inoculated rabbits. The serum removed by a blister from patients in the acute stage of the disease, injected either simultaneously with or previously to inoculation, exerted a deleterious effect and caused death earlier than in the control experiment.

Dr. A. E. WRIGHT read a paper on the Bacteriology and Pathological Chemistry of Pneumonia. "Diseases," he said, "which are due to bacterial infections may be classed into three great categories; they may be either 'septicæmias,' 'local inflammatory processes,' or 'intoxication processes.' In the case of septicæmias the bacteria are found free in the blood when the disease is at its height; in the case of local inflammatory processes the bacteria are constantly present in the inflamed tissues, but they do not necessarily invade the blood; and in the case of intoxication processes the bacteria elaborate their poisons only upon the inner or outer surface of the body, but the bacteria themselves do not invade the tissues. Now croupous pneumonia is primarily a local inflammatory process, and the lesions which characterise it are the result of an acute phagocytic reaction of the organism in response to a bacterial infection of the lungs. The infecting bacteria are generally the pneumococci of Fraenkel. Now the emigration of white blood-corpuscles into the alveoli of the lungs is entirely comparable with the emigration of white blood-corpuscles into the subcutaneous tissues, which constitutes an ordinary abscess. The white blood-corpuscles which emigrate are in both cases polynuclear white blood-corpuscles, and the subcutaneous abscess, equally with the pneumonia, may be the result of a pneumococcal infection. There are, however, important clinical differences between an attack of croupous pneumonia and a subcutaneous abscess. We need not refer to the obvious differences which result from the fact that the emigration of white blood-corpuscles in pneumonia directly interferes with the aeration of the blood. Nor need we refer to the fact that the emigration of white blood-corpuscles in pneumonia is a much more acute process. But we may turn our attention to the more important clinical difference which consists in the fact that pneumonia runs a definite course and terminates by crisis. The crisis which terminates an attack of pneumonia is very similar to the crisis which we meet with in connexion with spirillum fever, and spirillum fever is a typical septicæmic infection, and if we could succeed in understanding what occurred in the organism in the crisis of spirillum fever we

should probably not find it difficult to understand what takes place in the organism in the crisis of what we may now provisionally call 'pneumococcal fever.' I have therefore searched the admirable monograph of Vandyke Carter for any data that appeared to throw a light upon this question of the pathology of the crisis. We learn the following facts from Carter. When spirillum fever is at its height we have an enormous proliferation of white corpuscles in the blood. We have also a number of free spirilla in the blood at the height of the fever. When the crisis supervenes the white blood-corpuscles diminish rapidly in the blood, and *pari passu* with their diminution we have a complete disappearance of spirilla from the blood. This diminution of white corpuscles and disappearance of spirilla are in nearly all cases associated with an excessive turgidity, and tumefaction, and tenderness of the spleen or liver. Now this triple phenomenon of a diminution of the white corpuscles, a disappearance of the bacteria from the blood, and the tumefaction of the internal organs, especially the spleen and liver, can be experimentally produced. We need only, as Werigo has shown, inject bacteria or particulate matter of any kind, such as carmine grains, into the blood, and we shall immediately produce our triple phenomenon. Almost all the polynuclear white corpuscles disappear from the blood in the course of the next few minutes, and on killing the animal we find the bacteria or particles we have injected in the internal organs, chiefly in the spleen and liver, and along with them we find our polynuclear white corpuscles. And we further find that many of our particles or bacteria are lodged in the interior of our polynuclear white corpuscles; and we thus see that the disappearance of white corpuscles from the circulating blood, the disappearance of the bacteria, and the tumefaction of the internal organs are all manifestations of a phagocytic reaction, which eliminates these intrusive elements from the circulating blood. We have now to apply these facts to the pneumonic crisis. During the height of the fever we have an enormous increase of the circulating blood-corpuscles, especially of the polynuclear white corpuscles. When the crisis occurs we have a very rapid fall in their number. In the first of a series of cases recorded by V. Limbeck the white corpuscles in the circulating blood decreased from 22,000 to 6400 when the crisis occurred. And if our hypothesis is true we should find that this diminution of white corpuscles which goes hand in hand with the critical fall of temperature was associated with a process of phagocytosis and with an elimination of pneumococci from the blood. We may now pass on to the pathological chemistry of pneumonia, and I have very little that is new to add to what I published three years ago in a lecture[1] in which I gave an account of the research work I was privileged to do at the laboratories of the conjoint Colleges. I desire, however, to repeat myself, for what I had occasion to state in that lecture appears to me to be confirmed by my subsequent researches, and I believe that it is the key to the understanding of many of the phenomena of pneumonia. We shall suppose that the pneumonic fever has terminated with the crisis and that it is over, and we shall suppose also that the local inflammatory process has also come to an end. Our patient is, however, not well yet, and it is not with him merely a question of recovering the strength he has lost. He has not simply to convalesce. He has also to undo all that the local inflammatory process has done. He has to reabsorb into his system and then to excrete substances which are contained in the enormous mass of white blood-corpuscles which is filling up the alveoli of his lungs; and as the albuminous substance of these white blood-corpuscles has to be absorbed into his blood it concerns us to study what this albuminous substance is and what effect it will have upon his blood. The answer to these questions can be given in a single sentence. Almost the entire substance of the white blood-corpuscle consists of a nucleo-albumen, and this nucleo-albumen is identical with the nucleo-albumen originally prepared by Wooldridge from the white blood-corpuscles of the thymus gland. It is hardly necessary to say that the injection of this albuminous substance was shown by Wooldridge to be followed by intravascular thrombosis; and it is only necessary to take a pneumonic lung and to make an extract with a solution whose alkalinity is comparable to that of the blood plasma, and to inject this solution into the blood of a dog, in order to kill the animal instantaneously with intravascular thrombosis. On the other hand, it is possible that the absorption of the nucleo-albumen from the lungs may take place so gradually that its absorption may present no analogy with the sudden injection of nucleo-albumen into the blood in Wooldridge's experiment. We should then have nothing to fear in the direction of intravascular thrombosis. We should have to deal instead with the symptoms which result from a slow injection of nucleo-albumen into the blood. And these symptoms are a diminution of blood coagulability, which is analogous to the diminution of coagulability which results in animals from an injection of peptone; such a diminution of blood coagulability might be accompanied in man, as it is in the dog injected with peptone, with diarrhœa. Perhaps many of the critical diarrhœas may be explicable in this manner."—Dr. RUFFER asked whether the serum of animals dead from pneumonia exhibited either antitoxic or curative power. There was another poison present in the juices of animals dead from diphtheria—namely, that producing paralysis; and he asked whether any similar observation had been made in pneumonia.—Dr. WASHBOURN, in reply, said that neither antitoxic nor curative power appeared to reside in the serum of pneumonic animals, and there were no late developments comparable to the paralytic seizures in diphtheria.

[1] THE LANCET, Feb. 27th and March 5th, 1892.

OPHTHALMOLOGICAL SOCIETY.

Two Cases of Diphtheritic Conjunctivitis treated by Klein's Antitoxin.—Removal of the Lens in High Myopia, with a Case of − 25 D.—Eyesight and the Public Services.—Exhibition of Specimens.

AN ordinary meeting of this society was held on Jan. 31st, Dr. D. ARGYLL ROBERTSON, F.R.S.E., President, being in the chair.

Mr. W. H. JESSOP described two cases of Diphtheritic Conjunctivitis treated by Klein's Antitoxin. The first case was that of a boy aged nineteen months who had membrane on the upper and lower palpebral conjunctiva of the left eye, and a patch of membrane on the left side of the uvula; one lymphatic gland over the parotid was enlarged, and there was albumen in the urine. Three injections of Klein's antitoxin were given, one and a half drachm in all; the membrane disappeared in five days, and was not followed by conjunctivitis or other conjunctival change. There was no local treatment except distilled water. The second case was that of a male child eight months old. There was membrane on the palpebral conjunctiva of both eyes; the parotid lymphatic glands were enlarged; there was a muco-purulent discharge from the nose. Two injections of Klein's antitoxin, one drachm in all, were given, but there was no local treatment. The membrane disappeared in four days.—Dr. HAYWARD had examined the membrane in both cases and found large quantities of Löffler's bacillus. The membrane was well marked in both cases and only affected the palpebral conjunctiva.—The PRESIDENT inquired whether any paralysis had followed, as in diphtheria of the fauces.—Dr. HABERSHON asked the date of appearance of the membrane, as antitoxin injections were of little avail after forty-eight hours from its first development.—Mr. MACKINLAY referred to Mr. Tweedy's method of treatment by quinine and the good results obtained.—Mr. JESSOP, in reply, said it was still too early to look for any paralysis. The membrane was present when the patients presented themselves, and injections were employed at once. He could not say how long it might have existed. He doubted whether the cases quoted by Mr. Mackinlay were truly diphtheritic. As a rule, these cases did not recover without serious injury to the eye, and were usually complicated by purulent ophthalmia. His own cases were the first in which the new method of treatment was employed, and recovery so far had been perfect and had not been followed by any discharge.

Mr. C. WRAY read a paper on Removal of the Lens in High Myopia, with a Case of − 25 D. He thought that the operation was not applicable in the case of children with less than 10 D or in adults with less than 12 D of myopia. The objects of the operation were three in number: (*a*) to prevent detached retina; (*b*) to arrest or prevent retino-choroidal changes; and (*c*) to enable patients with the highest grades of myopia to work at reading distance if unable to do so. He presented statistics of myopia of 123 patients with 246 eyes; 38 cases, including 3 cases of detached retina, had vision less than $\frac{6}{36}$ in one eye, whilst 10 had vision less than $\frac{6}{36}$ in both eyes. His figures, he considered, admitted of three deductions: that the vision

was invariably less in the fourth decade than in the third; that retinal detachment was less to be feared than the changes in the retina and choroid; and that it was not necessary to regard every myope of 12 D and upwards as hopelessly drifting towards detached retina and blindness. He had seen a case of retinal detachment after the removal of a lens in a case of myopia of 30 D, and considered detachment comparatively frequent after operation. He pointed out that in myopia of low degree, associated with zonular cataract, the crescent is at times out of all proportion to the amount of myopia; and the presumption was that this was due to amblyopia, and on this conviction it was a common thing to remove zonulars when the patients could see $\frac{6}{9}$ and J 4, but he regretted that hospital reports did not furnish the subsequent history of these cases. As regarded the prevention of changes in the choroid and retina, the only case that would appear to bear upon the point was Meyer's, in which, after the removal of a lamellar cataract from a myope, the fundus changes were said to have progressed, and, judging from the statistics at his (Mr. Wray's) disposal, more rapidly than they would have done in all probability in the natural course of events. The point on which there was unanimity was that the patients were able to work much better after the operation, and some were enabled to follow vocations which had previously been impossible.—Mr. SPENCER WATSON commented upon the novelty of operation for this condition. He said he would himself hesitate to undertake it, not seeing how removal of the lens could relieve the progressive changes in high myopia. He had once removed a lens with its capsule for cataract in the subject of a high degree of myopia, and there had been some loss of vitreous, but the patient recovered well and with improved vision.—Mr. MARSHALL, Mr. HODGES, Dr. ROCKLIFFE, and Mr. RIDLEY mentioned cases in which interference had proved unavailing.—Mr. DOYNE did not think that loss of the lens would improve vision in a myopic and amblyopic eye.—Mr. LANG said he had operated for black cataract in an eye with 23 D myopia. Vision was improved from $\frac{6}{36}$ to $\frac{6}{12}$, but after some months the retina became detached. The same thing occurred in the other eye, so he did not think it could be attributed to the operation. On the whole, his experience was not favourable.—Mr. WRAY, in reply, said the age at which the operation was performed was of great importance. Cases showing 10 D myopia between the second and fourth decades underwent marked deterioration later. All those alluded to in the paper were amblyopic eyes with crescents. He thought the longer it was postponed the worse it would be. The operation would involve removing immature cataracts at the most dangerous age, and speakers had not mentioned the ages of their unsatisfactory cases.

Mr. MACKAY (Edinburgh) read a paper on Eyesight and the Public Services. His object was to express an acknowledgment and to elicit an opinion. The acknowledgment was that the recognition of the importance of good eyesight in the public services was due to the action of members of this society. The opinion to be elicited was whether the visual examinations were conducted in a satisfactory manner. He gave a short summary of the history of visual examination. In the public services coming to present facts, it would be found that there was a great difference between the method of fixing the standard recommended by this society and that generally regarded as sufficient by laymen or those not engaged in ophthalmic practice. The chief difference was that the one included an estimation of the refraction of the eye, the other did not; the result of this was that some candidates might be passed with a latent error so great that a time might come when their vision without glasses might fall below the standard, and they might have a difficulty in continuing their duty. This neglect of refraction was costly to the employer and a cause of hardship to the employed.—Mr. DOYNE considered the published instructions as to examination of vision were of no value whatever except for the navy.—Mr. MCHARDY said that for the Royal Navy full normal acuity of vision was required, no latitude whatever being allowed. He thought there was intense hardship in applying some tests of vision, not of refraction, to boys of twelve years after prolonged application, when there was sometimes temporary spasm of accommodation, which excluded the most studious, full acuity of vision being attained later. Cases of myopia were passed, refraction not being tested. Among the engineers the physical examination was held after the competitive one, which was regarded as a hardship in the navy. He strongly advocated the refraction test.—Fleet-Surgeon PRESTON said that in applying the tests there were two standards. In the executive, including the fighting men and engineers, the highest standard of vision was required; while in the case of the civil department, including surgeons, chaplains, and paymasters, much more latitude was allowed. In the navy it was required that a man should read all the letters in the test types, and not merely two or three in a line. Cases of hypermetropia and astigmatism were rejected. Colour vision was adequately tested by coloured tinting, Holmgren's wools, and tinted glasses. An estimation of the refraction in each case would require a staff of specialists, and there was no money provided for such a purpose. He admitted there was some hardship in the physical examination being held after the competitive one. In answer to Mr. Bickerton (Liverpool), he said perfect colour vision was required with either eye. The earliest rules were published in 1864.—Mr. BICKERTON cited the case of the *Vanguard*, which was lost through slowing down in a fog—owing to one "look-out" man with defective sight out of five giving notice of a vessel ahead seen by no one else. This led to the ship being run down by the *Iron Duke*, which was following.—The usual time of the meeting having expired, a prolongation was proposed by Mr. PRIESTLEY SMITH, and seconded by Mr. STEPHENSON.—Mr. PRIESTLEY SMITH said there was a want of correspondence between the idealists and practicalists. Normal vision was represented by the power to discern $\frac{6}{6}$ in Snellen's types in a good light. The expressions used in the pamphlet that every candidate should be emmetropic ought to be crossed out if the refraction was not examined.—Mr. CRITCHETT said he fully endorsed these statements. A uniform bright light was essential.—Mr. LANG said he knew of one naval surgeon who tested his cases under a mydriatic, which was very much more satisfactory.—Mr. MACKAY replied.

Dr. STEPHEN MACKENZIE proposed the following resolution, which was seconded by Mr. JULER:—

"1. That in the opinion of this society no examination of eyesight is complete or satisfactory which depends mainly upon an examination of the form vision by means of test types and dots and omits consideration of the refraction of the eye.

"2. That this society hereby appoint the President of the society (Dr. Argyll Robertson), Mr. Power, Mr. Nettleship, Mr. Lawson, Mr. Couper, Dr. Brailey, and Mr. Hartridge to accompany the deputation of the British Medical Association to the Board of Trade on Feb. 1st at 3 P.M. to give expression to the foregoing resolution."

The following card specimens were shown:—

Messrs. HODGE and RIDLEY: Intraocular Melanotic Sarcoma with Peculiar Characteristics.

Mr. LAWFORD: Unusual Arrangement of the Retinal Vessels.

Dr. ARGYLL ROBERTSON: A specimen of Filaria Loa.

Mr. MARCUS GUNN: (1) Peculiar Lenticular Changes following Old Injury of Eyeball; (2) Prolonged Hypermetropic Congestion of Optic Discs closely simulating Papillitis.

Mr. E. CLARKE: A case of Pulsating Exophthalmos.

Dr. J. HAYWARD: Microscopical Specimens and Cultivations of Löffler's Bacillus.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.

Casual Cow-pox.—Intestinal Affections requiring Surgical Treatment.

A MEETING of this society was held on Feb. 1st, the President, Dr. R. BANNING being in the chair.

Mr. BUCKNILL related a case of Casual Cow-pox which occurred in a man thirty-four years of age, who noticed a papule on the flexor surface of his left forearm two days after milking two cows; other spots followed and the pocks presented a most typical appearance. The vesicles contained clear fluid. During the first few days after the inoculation the patient complained of severe headache and general malaise; there was a deposit of urates in his urine and swelling and tenderness of the axillary glands. One of the cows was found to be suffering from bovine variola, and presented a number of dried-up pustules on the teats. All efforts to trace the origin of the disease proved abortive. The patient had four excellent marks of primary vaccination, and was revaccinated after this disease, but, as was fully expected, without the slightest result.—The President and Mr. Wood took part in the discussion.

Mr. KEETLEY then read a paper on some Intestinal Affections requiring Surgical Treatment. After referring to

twenty cases in which he had operated he remarked that physicians usually did not call in a surgeon except as a last chance, and that this delay was accountable for the high mortality of such cases. In his opinion the general attitude of patients towards operations was now changed, so that there was seldom any difficulty in obtaining their consent to laparotomy. He specially deprecated the administration of opium before a certain diagnosis had been arrived at, and recommended the administration of chloroform to facilitate the diagnosis. He also pointed out the similar symptoms which cases of appendicitis presented to those of other conditions. With regard to intestinal tumour he attributed their late diagnosis to the practice of treating obscure abdominal symptoms without making a thorough examination. He then reviewed the various methods of performing intestinal anastomosis, and gave the preference to Maunsell's method. Finally, he related a successful case of removal of a tumour of the ileo-cæcal valve.—Mr. EDWARDS mentioned a case of excision of rectum by Kraske's method, in which he attempted to join the cut ends by means of Murphy's button. The anastomosis was not successful, but the patient made a good recovery. He pointed out how satisfactory was the prognosis in cases of excision of rectal cancer if the case was operated on sufficiently early.—Dr. CHAPMAN called to mind many obscure abdominal cases which had recovered without operation. He doubted whether it was any use to operate on cases of intestinal cancer on account of the risk of recurrence.—Mr. BIDWELL could not agree with Dr. Chapman, and referred to two cases of removal of intestinal cancer—one from the cæcum and the other from the sigmoid flexure—which were alive four and two years after the operation respectively. He considered that the hesitation which physicians showed in handing over obscure abdominal cases to a surgeon was due to the fear of death from peritonitis. He pointed out that there was very little risk of this, and referred to twenty-nine laparotomies which he had done, in none of which was there any peritonitis, although four deaths occurred from other causes. Finally, he agreed with Mr. Keetley in recommending Maunsell's method of intestinal anastomosis, and related a case where he had recently successfully resected five inches of small intestine by this method. For lateral anastomosis he recommended Halstead's method, and referred to two cases of gastro-jejunostomy which he had performed by that method.—Dr. ROBERTS related a case of tuberculous peritonitis in which, although an abscess formed and was allowed to burst, the patient recovered.—Dr. MAUNSELL described his method of anastomosis. He advised the use of a piece of sponge over which is passed a safety pin as an intestinal clamp.—Dr. KEETLEY replied.

LIVERPOOL MEDICAL INSTITUTION.

Glioma of the Retina.—Injury to the Internal Carotid Artery; Ligature of the Common Carotid; Recovery.—A Case of Acromegaly benefited by Treatment.—A Case of Anæsthetic Leprosy.—Successful Trephining for Meningeal Hæmorrhage.—Pregnancy complicating Fibroid Tumour of the Body of the Uterus.

A MEETING of this society was held on Jan. 31st, Mr. CHAUNCY PUZEY, President, being in the chair.

Mr. RICHARD WILLIAMS showed a child the subject of well-marked Glioma of the Right Retina. He intended to enucleate the eyeball on the following day.

Mr. DAMER HARRISSON related a case where the Internal Carotid Artery was wounded by a sharp, dagger-like instrument close to its entrance into the skull. The common carotid artery was tied and the wound plugged daily with cyanide gauze. The patient made a good recovery.

Dr. CATON described an early case of Acromegaly occurring in a woman aged twenty-seven. Enlargement of the hands, feet, lower jaw, tongue, nose, and lower lip had taken place. She complained of headache, aching in the eyeballs, dimness of vision, and excessive lacrymation. Exophthalmos was present, with œdema round the eyes and greatly diminished visual fields, but no optic neuritis or temporal hemianopsia. The thyroid was small. The patient complained of pain in the right hypochondrium, coldness of the extremities, muscular feebleness, depression, and apathy. After three months' treatment by rest, tonics, and good food she appeared to be worse rather than better. About the beginning of November, 1894, three tablets, each containing two grains of pituitary body, were given daily. After this her condition showed much variability; sometimes she was much better. On Dec. 18th, in view of the analogy between acromegaly and myxœdema, thyroid tablets were alternated with pituitary tablets. From this time improvement was rapid; all pain, headache, and œdema disappeared. Vision became perfect, and the visual fields normal in extent. The hands and feet diminished in size, as did also the lower lip. Her facial expression changed, muscular strength increased, and she became as cheerful and active as she had been three years before. Lantern photographs of the patient were put on the screen, showing the very great improvement in the patient's appearance since taking the thyroid and pituitary tablets.

Mr. BANKS showed a young man on whom he had operated five years before for Swelling in the Ulnar Nerve. The man was of dark complexion, his mother being an Eurasian. At the time of the operation he complained of great loss of power in the right arm. There was a long cylindrical swelling of many inches of the ulnar nerve; sensation was lost over the area supplied by this nerve. The nerve was exposed and very carefully split lengthwise, and a long, pinkish core, looking like old blood-clot, was removed from its interior. On microscopical examination this substance was found to contain the bacilli of leprosy. The man speedily regained power over his arm, and the lost sensation returned. At present he could use one arm as well as the other.

Mr. DAMER HARRISSON showed a man who had been successfully Trephined for Meningeal Hæmorrhage.

Dr. T. B. GRIMSDALE read a paper on Pregnancy complicating Fibroid Tumour of the Body of the Uterus. Having made a general reference to the subject and considered the symptoms, diagnosis, and dangers of the condition, he related a case in which he had terminated pregnancy at the fourth month. He rapidly dilated the cervix with Hegar's dilators, and extracted the fœtus and placenta at one sitting. The result was quite satisfactory, and there was no hæmorrhage at the time of the operation. In this case the fibroid was larger than an adult head, and the abdomen was as much distended as if the pregnancy had reached full term. Dr. Grimsdale discussed the various methods of treatment adopted in these cases, and suggested some lines on which treatment should be regulated. He thought that the plan he adopted in his case would be applicable to a considerable number of cases of this description.—Drs. BRIGGS, GEMMELL and IMLACH criticised the paper.

Reviews and Notices of Books.

A Handbook of the Diseases of the Eye and their Treatment. By HENRY R. SWANZY, A.M., M.B., Surgeon to the National Eye and Ear Infirmary, Dublin. Fifth edition with illustrations. pp. 582. Edited, under supervision of the author, by LOUIS WERNER, M.B. London: H. K. Lewis. 1895.

WE are glad to see this serviceable and well-written manual has attained its fifth edition. The author has secured the services of an able coadjutor in Dr. Louis Werner, who has conscientiously performed his task of editing the work. The volume has been increased by about one-tenth of its former size, and various additions and modifications have been made, amongst which may be mentioned an account of the astigmometer and its use, of the effects of electric light on the eyes, of scintillating scotoma, of ophthalmia nodosa, and of enophthalmos. The articles on tubercle of the iris and tumours of the optic nerve have been rewritten, and some of the chapters have been revised and extended. Dr. Swanzy is one of the most vigorous advocates of the method of operating for cataract in which the linear operation is combined with a small iridectomy, and his success has been such as to justify his teaching. He states that in 200 consecutive extractions he has only had two cases in which prolapse of the iris occurred with incarceration. He adopts a proceeding after the delivery of the lens which he believes to be original and

which he regards as important. It consists in introducing a bent iris forceps open between the lips of the wound, closing the blades, and gently withdrawing the instrument. A tag of capsule, he states, is frequently captured by the forceps, and is to be snipped off with scissors. The forceps is then similarly inserted at an adjacent part of the wound, and in this manner the wound is searched from end to end for capsule. A tag of capsule is found in about 25 per cent. of the cases. He instils a drop of eserine solution before the operation, and one drop of atropine sulphate solution afterwards. In the chapter on the lacrymal apparatus, speaking of obstruction of the canaliculi, Dr. Swanzy observes with great prudence that when it is necessary to have recourse to the operation of slitting up the canaliculus, the passage should not, if possible, be slit up in its entire length. At least 3 mm. of its median end ought to be left intact, otherwise the patient is liable to regurgitation of tears from the lacrymal sac for ever afterwards. In his account of the surgical treatment of convergent strabismus Dr. Swanzy though he mentions it, does not appear to be strongly in favour of the treatment recently advocated of advancement of the external rectus in place of or combined with tenotomy of the internal rectus. There is a very useful appendix, containing a full account of Holmgren's method of testing the sense of colour and the regulations as to defects of vision in the several Services. It cannot be too strongly insisted by family physicians that before a lad is sent to a "crammer's" or is made to work for one of the Services at school his vision should be tested by an expert. It saves much subsequent annoyance. There are very few typographical errors; but on page 539, speaking of the distance at which a gas jet should be placed behind a Maddox rod, "mm." is given, instead of *m*. The work is an excellent treatise for the student and general practitioner, the various diseases being well and clearly described, and the illustrations being numerous and accurate.

A Treatise on Appendicitis. By GEORGE R. FOWLER, M.D., Examiner in Surgery, Medical Examining Board of the Regents of the University of the State of New York, Surgeon to St. Mary's Hospital and to the Methodist Episcopal Hospital, &c. Philadelphia: J. B. Lippincott Company. 1894.

THIS volume of nearly 200 pages consists of a revised and corrected reprint of a series of articles which have been already published in the annals of surgery. Dr. Fowler has had unusual opportunities of studying the disease which he and many others call "appendicitis," and he has produced a treatise of considerable value. There are very few subjects on which current medical opinion has undergone a more complete and radical change than on the pathology and treatment of syphilis, and there are very few diseases the pathology of which has been more carefully worked out. As the result of much labour it has been shown that changes in the vermiform appendix underlie all the cases that were formerly grouped in typhlitis, perityphlitis, and paratyphlitis, and the most advanced view of the therapeutics of these affections is that excision of this appendix is the only really satisfactory treatment for all cases except those of the most trivial grade. There are still some physicians and surgeons who hold that there is a disease which can only be rightly called "typhlitis," inasmuch as it originates in pathological changes in the cæcum—but certainly such cases are very rare and exceptional. A large number of practitioners are still unconvinced that surgical measures should always be taken in marked forms of this disease. That recovery may ensue upon even a severe attack of typhlitis without reverting to surgery is undoubted, but that is very far from establishing the position that the expectant treatment is the wiser course to pursue. The removal of the appendix in the early stage of the affection is apparently the safest course to pursue if the surgeon operates with proper skill and precautions. One of the most interesting problems in pathology is the etiology of typhlitis. Dr. Fowler's view is that infection by pathogenic organisms is an all-important part of the process, and that, while the bacillus coli communis is constantly present and is the most important of the organisms found in exudations, other organisms are also present, and that the process is truly a multiple infection. This infection, however, he argues, is only secondary. It is led up to and rendered possible by some alteration in the appendix which renders it vulnerable. In Dr. Fowler's opinion this primary change is to be found in the bloodvessels or the nerves of the part. On the one hand, torsion and angulation of the appendix may impede the circulation, and endarteritis and thrombosis may occur; the pressure of an enterolith may also cause local anæmia. On the other hand, he thinks he has found evidence of an endo- or peri-neuritis, which, by causing trophic change in the part, may be the starting point of the disease. The changes he figures in both arteries and nerves may be the result of the local inflammatory affection, however, and not its cause. But in this chapter, as in all the others of the treatise, the subject is dealt with very ably and impartially, and discussed with great knowledge of the facts. The literature of the disease is very extensive, and much of it consists of hastily considered judgments or ill-digested observations; and it is, therefore, all the more refreshing to turn to a *brochure* marred by neither of these faults. Even those who cannot accept all Dr. Fowler's practical conclusions cannot fail to recognise the worth of the solid basis on which he founds them, or the admirably lucid and careful manner in which they are stated. Dr. Fowler has certainly made a valuable contribution to surgical literature.

Dr. William Smellie and his Contemporaries. By JOHN GLAISTER, M.D., F.F.P.S. Glasg. Glasgow: Jas. Maclehose and Sons. 1894.

DR. GLAISTER has performed his task, not as a mere compiler, but somewhat in the spirit of an original investigator; in fact, the preface implies that local patriotism was among the inducements which led him to the undertaking. Of course, much has already been written on the life and works of the famous accoucheur, but the present biography adds some useful details to our already existing knowledge of the subject and presents in a convenient form much information bearing on the history of midwifery in the seventeenth and eighteenth centuries.

William Smellie was born in the town of Lanark in 1697. He probably received the rudiments of a medical education as an apprentice to a surgeon in Glasgow, and, though not in possession of a legal qualification, established himself as a general practitioner in his native place about 1720. In 1724 he married, and in 1733 he became a Member of the Faculty of Physicians and Surgeons of Glasgow. Towards the end of 1738 or beginning of 1739 he left Lanark for London, soon proceeding to Paris, where he remained at least three months, attending the midwifery lectures delivered by Grégoire. Probably in the same year, 1739, he returned to London and commenced practice as an accoucheur and apothecary in a humble way in the vicinity of Pall Mall. The principal teachers of midwifery in London at this time were Dr. John Maubray and Sir Richard Manningham. The former had received pupils at his house in Bond-street as far back as 1724, and had published two treatises, in one of which obstetrics were combined with astrology and mysticism. Sir Richard Manningham was just beginning to give instruction in St. James's Infirmary, Westminster, where in 1739 a ward was set apart for lying-in women, being apparently the first separate maternity institution in this country. Smellie

mentions in his third volume that he himself was a teacher of midwifery in 1741, and Dr. Glaister's researches have elicited that on Feb. 13th, 1745, the University of Glasgow conferred on him the degree of M.D. *in absentiâ*. By 1748 he had attained such celebrity and trained so many pupils as to draw on himself the active hostility of the midwives and of several practitioners who disapproved of male obstetricians. As his success increased he removed from Pall Mall to Gerrard-street, and afterwards to Wardour-street, Soho, which reads oddly nowadays. In 1751 (see p. 165) he published his first volume, an octavo, entitled "A Treatise on the Theory and Practice of Midwifery," and the London *Monthly Review* for December of that year gave it a very favourable reception. In 1754 he brought out a second volume describing 274 obstetric cases, the majority of which had occurred in his own practice. This work was revised for publication by Tobias Smollett, the novelist, who mentions it in a letter written from Chelsea to Dr. Moore in Glasgow. Dr. Glaister reproduces this letter by an excellent photoprint, which would have been still better if not so much reduced in size. Accompanying the second volume there appeared in folio form his "Anatomical Tables," consisting of thirty-nine plates and containing the first published drawing of his straight and curved forceps. He used French forceps as far back as 1737; between 1744 and 1745 he invented the familiar method of locking the blades, and before 1748 he gave the instrument that form which is still known by his name. He also invented the perforating scissors, which was the prototype of the modern perforator. In his directions for performing craniotomy he "for the first time detailed the steps of an operation which in practically every feature has been followed by every enlightened accoucheur and by every writer on obstetrics since his day." In 1759 he retired from practice and returned to Lanark, his native place, where he worked at the preparation of his third volume until his death in 1763. This third volume, edited probably by Tobias Smollett, appeared in 1764, and was entitled "A Collection of Preternatural Cases and Observations in Midwifery," by W. Smellie.

The biography would have been improved by greater conciseness of style and by the omission of a few inelegancies such as "scatologic medicine" (on p. 171), a Greek synonym for "fæcal" being quite needless. Many of the Latin words and quotations contain obvious typographical errors, as on pp. 35 and 229, and elsewhere. The author has, however, collected and examined his materials with unusual care and has produced a book of no small merit.

Syphilis. By ALFRED COOPER. F.R.C.S. Eng. Edited by EDWARD COTTERELL, F.R.C.S. Eng. London: J. & A. Churchill. 1895.

TEN years have elapsed since the appearance in 1885 of the first edition of this work, and in the present issue, which has been edited by Mr. Edward Cotterell, all the chapters have been revised, several have been entirely rewritten, and a chapter on the Relation between Syphilis and Insanity has been added. After a short account of the history and geographical distribution of syphilis a description is given of the ordinary course of the disease. Then follows a discussion of the "unity" and "duality" theories, which now do not possess either the interest or importance they once had. The general and local manifestations of syphilis are well described, and a chapter is devoted to the inherited form of the disease. The question of the prevention of syphilis is discussed, and a chapter on the various methods of treatment concludes the volume. The chief new feature of this edition is to be found in the illustrations, which are contained in twenty plates, and of these eleven are coloured. All the illustrations are of a high order of excellence, but chief praise must be given to the coloured plates, which are reproductions of original paintings taken for this work; they represent very graphically some of the more characteristic syphilitic eruptions. Plates X., XI., and XIII. are especially worthy of commendation. The microscopic appearances are well represented in the drawings, four of which are reproduced from Dr. Radcliffe Crocker's work on the Skin. We may say, in conclusion, that the work in its present form contains a very satisfactory exposition of the present state of our knowledge with regard to syphilis.

JOURNALS.

Teratologia: a Quarterly Journal of Antenatal Pathology. Edited by J. W. BALLANTYNE, M.D., F.R.C.P. Edin., F.R.S.E. Vol. II., No. 1. London: Williams and Norgate. January, 1895. It speaks well for the width of view now embraced by pathology, and the activity exhibited in its pursuit, that a scientific journal should be founded with the sole object of recording facts in foetal pathology and congenital anomalies. The contents of the present number, which begins a new volume, prove that the topics are of wide and varied range, that there is much to be learnt in a field that has been comparatively neglected, and that the studies in this department are full of promise for the elucidation of many problems and the rectification of many theories. Dr. Ballantyne is to be congratulated upon his efforts to disseminate this new learning in the cause of pure science. The first paper is by Dr. John Thomson on a Form of Congenital Thoracic Deformity, based upon a collection of eighty-six cases on record, together with three others that he has himself observed. Briefly, the deformity consists in unilateral defective development of the chest wall, hair, subcutaneous fat, breast, pectoral, and other muscles, costal cartilages, and anterior ends of ribs, associated with deformity of hand and forearm. The defect is not analogous to the condition of mesial fissure, but is probably due to intra-uterine pressure affecting the side of the thorax and the upper limb. The paper is fully illustrated. Dr. William Osler records an example of Cerebral Hæmorrhage in a Six Months Fœtus, removed after the death of the mother. The editor describes a case of Pre-auricular or Branchial Appendage, and in another article enters into the history and associated pathology of the whole subject. Several reviews and a copious collection of abstracts from current literature make up a very interesting number of a periodical which may be commended to the notice of pathologists.

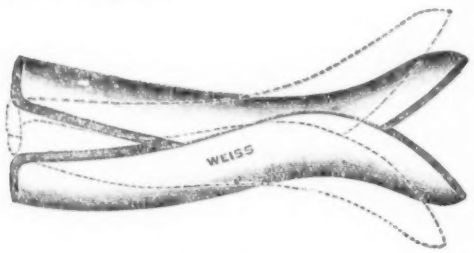
Archiv für Pathologische Anatomie und Physiologie und für Klinische Medicin. Herausgegeben von RUDOLF VIRCHOW. Band cxxxix., Heft 1. (*Archives of Pathological Anatomy and Physiology and of Clinical Medicine. Edited by* RUDOLF VIRCHOW. Vol. cxxxix., No. 1.) Berlin: G. Reimer. 1895.—In spite of the increasing number of channels for the publication of original contributions to medical science the popularity of *Virchow's Archiv* is unabated. Of this famous journal four volumes have appeared annually since 1878 in place of three a year as formerly, but the editor is, notwithstanding, compelled to address some words of warning to his contributors to condense their material and limit the number of their illustrations. The number of papers now in his hands is so large that it is proposed to publish a supplementary part to the just completed volume (the 138th), and, if necessary, to issue another similar supplement subsequently. This is not the first time that Professor Virchow has been impelled to ask his contributors to be concise and forbearing. In 1878, and again in 1881, he made a similar appeal. Amongst the papers of marked interest in the number just issued are the following: On Parasitic Ictero-Hæmaturia in Sheep: a Contribution to the Study of Amœbo-sporidia, by Professor Bonomo of Padua; on the Etiology of Parenchymatous Nephritis (Puerperal Eclampsia, Ptomainæmia), by Dr. A. Favre of Neuchatel;

on Normal and Inflamed Cardiac Valves, by Dr. Veraguth of and Zurich; and on Œdema of the Larynx and Submucous Laryngitis, by Dr. Kuttner of Berlin.

New Inventions.

A MODIFICATION OF THE BIVALVED SPECULUM.

IN the leading article on "Advances in the Treatment of Uterine Fibroid Tumours," which appeared in THE LANCET of Jan. 19th, 1895, the words occur: "Many prominent operators in America and on the Continent ..... practise total extirpation of the uterus in cases of uterine fibroids." May I be allowed to point out that this practice has also been adopted for some time in this country, notably by Dr. Smyly (Dublin), who, in the paper he read before the British Medical Association meeting at Bristol last year, recorded fifteen cases, with two deaths, Mr. Greig Smith and myself. I have performed total extirpation for uterine myomata on three occasions, each case making a good and speedy recovery. As the operation I adopt differs somewhat from that as performed by Martin in Berlin or Dr. Smyly it will not be out of place to briefly describe it. For the purpose of the operation in my first cases I used an ordinary Fergusson's speculum, which answered the purpose fairly well, but I have had made for me by Messrs. Weiss a modification of a bivalved speculum, which I now use. (See Fig.)



The abdomen being opened in the middle line and the tumour delivered through the wound, the broad ligaments are ligatured and divided on each side. Small anterior and posterior flaps of peritoneum are raised from the uterus, the bladder being pushed away in front and the rectum behind. The speculum, which is nine inches long, is introduced into the vagina and held in position by an assistant, and is now pushed well home, and, the assistant pressing on the outer ends, the blades are forced open and the roof of the vagina put upon the stretch. It is then an easy matter to cut into the vagina from above on to the ends of the blades of the speculum in front and behind. This being done, the uterine arteries are readily secured by ligatures and the tissues between them and the cervix uteri divided. The myomatous uterus is then lifted out of the abdomen. Any bleeding points being secured by catgut ligatures, the peritoneal flaps are closed by passing long sutures (about six in number) in the following manner. The needle, threaded with a No. 4 silk suture, is passed from the raw surface through one of the flaps, and then over and through the other flap from the peritoneal surface; these are tied in long loops and conducted through the speculum down the vagina and pulled taut, the effect being to evert the flaps into the vagina, thus securing the peritoneal surfaces into accurate apposition. The loops can be withdrawn the next day. The vagina finally is washed out with carbolic lotion and packed with iodoform gauze. The abdominal wound is closed in the usual manner.

FRED. BOWREMAN JESSETT, F.R.C.S.
Buckingham Palace mansions, S.W.

THE ENEMA RACK.

INDIARUBBER enema syringes which are habitually kept in their boxes when not in use suffer very much from the long-continued bending of the tubes. The material has a natural tendency to become hard in course of time, and the result is one or more curvatures in the tube. To meet this difficulty Messrs. Reynolds and Branson, 13, Briggate, Leeds, have introduced an enema rack, consisting of a stout tinned wire,

rather over two feet long, jointed in the middle for portability and having fixed loops at one end and at the other a support for a small bottle. The valved end of the syringe passes through one of these loops, and by the other loop the whole can be suspended in a vertical position with the nozzle of the syringe in the bottle so as to avoid any drip or splashing. The device is perfectly simple and of obvious utility.

THE WITTMANN FILTER.

THIS filter may justly claim to be free from the complicated structure of most filters, which makes it difficult to ascertain when a filter is foul with impurities or when it is necessary to replace the filtering medium. In the Wittmann filter the medium consists of a well-prepared animal charcoal fashioned into the shape of a bowl about four inches deep, and it is this feature which constitutes the real novelty of the device. The charcoal bowl simply rests upon a narrow gallery or ledge provided on the inside of a glass reservoir or other suitable receptacle. Apart from the purifying powers which well-burnt animal charcoal is known to possess, especially in regard to deodorisation and decolourisation, this arrangement, we find, is effectual in bringing the filtered water into intimate contact with the air, and by its constant fall in drops under conditions of free exposure to the air a maximum degree of aeration is secured. While also the filter will remove from the water impurities which will accumulate in course of time according to the quality of water with which it has to deal, these may easily be removed by cleansing and immersing the bowl in boiling water as occasion may require. Everything being exposed to view, the time when this should be done will be manifest. On this account the use of this filter is calculated, we think, to ensure the consumption of clean and bright water. We notice that Drs. Sims Woodhead and Wood in their bacteriological report upon this filter, remark that, "although its filtering capacity is above the average, it offers no effective impediment to the direct passage of micro-organisms." The filter is made by Messrs. Wittmann and Roth, 47, Great Marlborough-street, W.

THE LIVERPOOL WATCH COMMITTEE AND THE VACCINATION OF THE POLICE.—The Watch Committee of Liverpool have had their attention drawn by Mr. F. W. Lowndes, one of the surgeons to the police, to the fact that a proportion of the recruits applying for admission to the force have no vaccination scars on their arms at all, while very few have undergone revaccination. They have resolved that in future every man before admission to the force be required to prove to the satisfaction of the police-surgeon that he has been efficiently vaccinated or revaccinated. It was also resolved that such members of the force as may desire it be vaccinated or revaccinated by the police-surgeon free of cost; that they be upon the "hurt list" if necessary; that the police-surgeon be paid for each case one shilling; and that the cost of lymph be paid by the corporation. The principle of practical compulsory vaccination has been admitted by the State for many years past, the men of the army, navy, militia, and postal and other services being obliged to undergo revaccination before being appointed. The same remark applies to members of the Metropolitan Police Force, the Royal Irish Constabulary, and other police forces throughout the kingdom. It is greatly to be hoped that the same rule will be enforced wherever required, policemen being very liable to be exposed to the contagion of small-pox.

THE LANCET.

LONDON: SATURDAY, FEBRUARY 9, 1895.

ON Friday, Feb. 1st, a large and influential deputation, including almost all the leading ophthalmic surgeons in Great Britain, waited upon Mr. BRYCE, the President of the Board of Trade, to impress upon him the extreme importance of applying scientific tests to the eyes of men and officers about to join the mercantile marine or the railway services. The chief points which were emphasised by Mr. MACNAMARA, who introduced the deputation, and by the speakers who followed him, were that every man should be tested in regard to his vision both for form and colour; that this examination should be conducted by a responsible person, and, if possible, by an expert; that the conditions in regard to light and distance should be as uniform as possible; and, lastly, that the examination should be repeated at stated intervals in order that any deterioration resulting from disease or from the advance of age might be detected. It was urged, and rightly urged, that such tests were already in use in the army, navy, and Indian services, and more especially on the Indian railways, and that no difficulty was experienced in obtaining a sufficient number of competent men without visual defects for those departments. Mr. BRYCE, in reply, whilst acknowledging in a very courteous manner the great weight and influence of the deputation, contended that the Board of Trade had shown that they were already fully alive to the importance of the subject. The Board of Trade, he remarked, possessed only limited statutory powers; but quite recently, in the autumn of last year, a modified and improved method of examination had been instituted, by which the eyes of all candidates for the posts of master mariners and of mates were tested; beyond that the Board was not empowered to go. It had no statutory powers in regard to railway officials.

This reply, however, does not quite touch the root of the question. Examinations may be instituted, but the real question is, Are they carried out in a thoroughly satisfactory manner? It was, moreover, shown by more than one of the deputation that no effort is even now made to determine the refraction of the eyes of the candidates, and that consequently cases of hypermetropia and of astigmatism may present themselves with sufficient acuteness of vision to enable them to pass muster and yet be inadequate, after the lapse of a variable period, for the due discharge of their duties. When we consider that the modern liner not infrequently cuts the water at the rate of a mile in three minutes; that she carries from 300 to 1200 passengers, besides a cargo of the value of many thousands of pounds; that there are scores of such ships afloat; that, as the late accident has demonstrated, she is liable to be sunk in less than half an hour by a blow affecting a vital part delivered by a comparatively small vessel; and, lastly, that the recognition of any danger ahead in time to enable it to be averted is dependent upon the keenness of sight and correctness of colour vision of two or three men on the look-out—when we consider all these points surely we are entitled to demand that every possible precaution to prevent disaster that knowledge and science can suggest should be exercised, and that no pains should be spared to debar the entrance into responsible positions of men whose defect is often not from any fault of their own, but a congenital imperfection. It may be perfectly true, as Mr. BRYCE remarked, that very few, if any, accidents, the causes of which have hitherto been the subject of investigation, can be shown to have resulted from the visual defects of the officers or men on board our mercantile marine; but it will be acknowledged by all that where so much life and property are at stake it would be madness to overlook an extremely probable though recently discovered source of danger. The old adage of "Forewarned, forearmed" may still be borne in mind, especially as the defects in question afford a reasonable explanation of accidents for the cause of which no plausible suggestion has been made. That which is true of the mercantile marine holds, in the same sense, for the railway service, and two cases reported in our issue of this week by Mr. W. M. BEAUMONT show well that the danger to the public who travel by rail from the visual errors of railway servants is not imaginary. The possession of normal acuteness of vision and of normal perception of colour is imperative among railway officials no less than among sailors for the safety of life and for the protection of property.

The contention advanced by Mr. BRYCE that the railway companies are sufficiently alive to their own interests to prevent men with defective vision entering their service is well founded, and it appears that several of the larger companies have taken the precaution to appoint a competent surgeon to examine all candidates for admission to the service. Yet even in these cases it seems to be doubtful whether the refraction of each eye is accurately determined. It would do no harm if, as Mr. LEET suggests in his letter to us, some responsible adviser, some professional head analogous to the Director-General of the Medical Departments of the Army and the Royal Navy, were appointed, whose business it should be to see that the recommendations and orders of the Board of Trade on this point are carried out, and to whom all complaints might be referred. This appointment would not enable the railway companies to shirk their responsibility on the ground that the State certificate superseded their own duties, as Mr. BRYCE thought would occur if the tests were applied by a Government official. It would simply ensure that the provisions for the safety of the travelling public were duly enforced. The frequency with which colour-blindness occurs in the population generally is known to be about 3 or 4 per cent.; but it may be of interest to state that the number of candidates for masters' and mates' certificates of competency in the British mercantile marine who failed in the colour test during the fifteen months ending with August last year—that is, before the more recent and better mode of testing the eyes for this defect had come into play—was no less than eighty-one, every one of whom in old days would have been permitted to enter the service without question, but to the manifest danger of Her Majesty's subjects. The suggestions of the deputation that the eyes of all candidates for the mercantile

marine service should be tested for keenness of vision and for colour sense, and that the condition of refraction should be accurately determined by a competent examiner at regular intervals, seem to be not only prudent but absolutely necessary, whilst they present no difficulty that render their adoption impracticable.

THERE is no longer the least doubt that Lord RAYLEIGH, Sec.R.S., and Professor RAMSAY, F.R.S., have made a most important discovery, and the most remarkable thing connected with it is that the new element (or it may be elements) has been separated, not from any rare earths or other comparatively unknown source, but from our own familiar friend the air we breathe. "Argon" has thus escaped the notice of investigators for nearly a century, and its probable existence was only lately surmised by a physicist when he observed that the density of nitrogen expelled from chemical compounds was about ½ per cent. lighter than atmospheric nitrogen; its actual separation and identification seem, however, to have been reserved until both chemist and physicist attacked the problem. The former was Lord RAYLEIGH and the latter Professor WILLIAM RAMSAY, and the result of their joint labour is a happy instance of the success which attends the coöperation of those who, though engaged in different but adjoining fields of scientific research, yet labour in concert to unfold the secrets of nature. It is not possible to enter into the masterly and extremely interesting argumentative details of the paper contributed by Lord RAYLEIGH and Professor RAMSAY, the reading of which by the latter riveted the silent but expectant attention of the Fellows of the Royal Society and their friends in the theatre of the London University on Thursday afternoon last week. Suffice it to say that the history of the progressive stages of the investigation was not the least fascinating portion of the paper, as were also the clear and lucid arguments and experimental evidence adduced, which left the distinguished audience in little doubt as to whether the element or constituent separated was really new or old. We may, therefore, pass at once, in accordance with the plan of the chemical text-books, to a brief account of the history, preparation, and properties of the new element. By way of preface, however, it is impossible to forget the classic work in the last century of CAVENDISH on the composition of the air, which must appeal once more to the wonder and admiration of present-day chemists and physicists, his power of discernment being, in the light of this recent discovery, more clearly evident than ever before, since in his remarkable paper published in the Philosophical Transactions in 1788 he expresses doubt as to whether the nitrogen of the air (phlogisticated air) was in kind elementary, and he even adduced distinct experimental evidence—based on the oxidation of nitrogen by means of the electric spark and subsequent absorption of nitric fumes—of another constituent in the atmosphere. Thus he wrote, "If there is any part of phlogisticated air of our atmosphere which differs from the rest and cannot be reduced to nitrous acid we may safely conclude that it is not more than $\frac{1}{120}$th part of the whole." This residue was, no doubt, Lord RAYLEIGH'S and Professor RAMSAY'S argon, which occurs probably to the extent of between $\frac{1}{120}$th and $\frac{1}{70}$th part of the whole atmosphere.

It was by repeating the Cavendish experiment, with the facility of appliances which the improvements of a hundred years have afforded, and by adding successive quantities of air out of which the nitrogen was eliminated in the manner indicated, that Lord RAYLEIGH and Professor RAMSAY showed that the residue could not be nitrogen, but another body, which they have called "argon." Under similar treatment chemically obtained nitrogen yielded no such residue, except such as could be accounted for by accident or other cause. Argon is best obtained, however, by first freeing the air, from which carbonic acid and water have been removed, from oxygen by means of red-hot copper and then absorbing the nitrogen by means of metallic magnesium, which, when heated to redness, combines with the nitrogen, forming an orange-coloured mass of magnesium nitride. The residual gas after this series of operations—the passage of the gases being repeated again and again—is argon. In this process, again, chemically derived nitrogen yields no such residue. The density of pure argon is 20; hence its molecular weight in accordance with Avogardro's law must be 40. There are reasons for believing that, like mercury, its molecule contains but one atom; its atomic weight, 40, is therefore identical with its molecular weight. Argon is soluble to the extent of 4 volumes per 100 volumes of water, so that it is about two and a half times as soluble as nitrogen, and possesses approximately the same degree of solubility as oxygen, and is accordingly found to occur in increased proportion to nitrogen in rain water. According to Dr. OLSZEWSKI, a well-known authority on the constants of liquefied gases at low temperatures, argon easily condenses to a colourless liquid at a temperature of −128·6° C. and under a pressure of thirty-eight atmospheres. At a lower temperature argon freezes to a crystalline mass like ice; at a still lower temperature it becomes white and opaque. Its freezing point is −189·6°, its boiling point −187°, and its density as liquid is 1·5. As far as spectroscopic work can decide Professor CROOKES concludes that Lord RAYLEIGH and Professor RAMSAY have added one, if not two, members to the family of elementary bodies. It appears that argon yields two distinct spectra, and this would indicate it to be in reality a mixture of two gases, which have as yet not been separated. On the other hand, Dr. OLSZEWSKI has shown that argon has a definite melting point, a definite boiling point, and a definite critical temperature; and these, as is well known, afford excellent criteria of a pure substance, while there is no certainty that the exhibition of several spectra is necessarily characteristic of a mixture. Still further light, however, is needed upon this all-important point, and the discoverers hope to decide the question in the experimental work which they promise shortly to undertake. If argon be a single element, then there is reason to doubt whether the periodic classification of the elements is complete—whether, in fact, elements may not exist which cannot be fitted among those of which it is composed. On the other hand, if argon be a mixture of two elements they might find place in the eighth group in Mendeleef's classification, one after chlorine and one after bromine. If it be supposed that argon belongs to the eighth group, then its properties would fit fairly well with the requirements of the periodic law. For the series which contains silicon, phosphorus, sulphur, and chlorine

might be expected to end with an element of mon-atomic molecules of no valency—i.e., incapable of forming a compound, or, if forming one, being an octad; and it would form a possible transition to potassium with its monovalence on the other hand. "Such conceptions are, however, of a speculative nature, yet they may perhaps be excused if they in any way lead to experiments which tend to throw more light on the anomalies of this curious element." Lastly, the extreme indifference or inertness of argon to combine with other elements, in spite of its solubility in water, is remarkable. This property has suggested its name, which is derived from *ἀν-ἔργον*, the same word being used in the Greek Testament in the familiar passage about "every *idle* word." All attempts to combine argon with the bodies which commonly exhibit a vigorous affinity for certain elements have proved utterly abortive. Fluorine, which lays siege to almost every known body, has, however, not been tried. In this connexion it should be borne in mind that it is nitrogen's very inertness which makes it so powerful an agent in modern high explosives; it strongly resents partnership or a tied existence, as does apparently argon, and longs to exchange the solid condition for the gaseous. We are face to face, then, with a mass of remarkable evidence, brought forward with singular skill and clearness by the discoverers, in favour of the existence of a new constituent of the atmosphere. It has stood unflinchingly the minute and exacting investigations of Dr. OLSZEWSKI and Professor CROOKES, and the discoverers have received the congratulations of the presidents of the learned societies, so that, regarding the important contribution in the light of a proposition, we may write conclusively at its end Q.E.D.

That being so, what, we may ask, is the significance of this newly discovered constituent of the atmosphere? Does, for instance, its presence affect the phenomenon of respiration or of the assimilation of food material by plants? Would not its solubility in water, which is greater than nitrogen and equal to oxygen, lead to its transmission through the moist membrane of the lung, and, if so, what part does it play in the physiological processes in man upon which his very existence depends? Does its alternating presence in the air possibly account for the bracing influence of sea and mountain air, and are the benefits of balneo-therapeutics, *inter alia*, to be ascribed to argon? Again, is it nitrogen or, after all, argon that is disengaged from certain warm mineral waters, as those of Buxton? All these and other questions of probable importance will at once occur to our readers when they learn the existence and the properties of the new atmospheric constituent. Who can tell, therefore, that the discovery of argon may not open a new vista even to the student and practitioner of medicine? It is certain that now the existence and position of argon have been indicated, as with a new planet or comet, a host of observers will turn their instruments upon it and many deductions on these and other points are sure to be orthcoming.

IT is pardonable perhaps in the vacation season for our lay contemporaries to devote their columns to the discussion of a very old question—the propriety of medical men dispensing their own medicines. The opening of Parliament will no doubt see the termination of such a discussion long before the question is settled to the satisfaction of either side. Some good things have been said on both sides, and some very foolish things. The subject is one which admits of no dogmatic treatment, and one on which every medical man must be allowed to do that which he deems best in the circumstances of his particular practice. One of the foolish arguments is adduced in favour of a medical man writing prescriptions. It is to this effect—that he thereby gives his patient an opportunity of judging of the propriety of the treatment, for the patient can then see what the medicines prescribed are, and by consulting a book on materia medica can tell whether the medical man is acting rightly; as if the patient were a detective to watch his medical man suspiciously, and capable of judging his treatment by reference to any old book on medicine that might be at his finger ends. Not very much more serious is the argument from the suggestion that medical men often injure their patients by mistakes of dispensing, but that nothing comes of it because of their power of filling up certificates of death. The teaching of pharmacy in medical education, though more and more insisted on, is not so perfect as it should be; but it is to medical men that we owe all precautions of therapeutics and the wisdom of giving the smallest doses of drugs that are compatible with their usefulness. They cannot be free from the responsibility of dispensing their most powerful drugs, for they have to do so in all night practice and in lonely and remote places. It is essential that they have this faculty in the interest of their patients and for their speedy relief. Readiness is a great part of the value of any medical man—"His ready help was always nigh,"—the ability to act and to relieve without waiting for the assistance of druggists or nurses or any subordinates. They would deprive the general practitioner of a great power of usefulness who would dissociate him from the manipulation and preparation of drugs. They might as well, and better, dissociate him from the use of his splints and pocket-case. One writer in our contemporary, the *Birmingham Daily Mail*, says truly that there are in that city medical men who give their professional services and supply medicine at the rate of one penny per week per head! Would that Birmingham—"the best governed city in Europe"—were alone in that respect. Medical men are not entirely to blame for this mean arrangement. It is dictated by the "sweating" views of the committees of medical aid associations, medical clubs, &c. But medical men are not without blame and must feel that they place the profession in an undignified and false position. We are not concerned to defend those who thus bring medical service into contempt. They have been condemned by the general judgment of the profession and the implied judgment of the General Medical Council.

But while we demand for the medical practitioner the right to dispense—that is, full control over the immediate and direct use of drugs—we are quite favourable to the delegation of the drudgery of dispensing to druggists wherever this is practicable. In country places and in poor districts or practices it is not practicable; but in other places and circumstances it is practicable and should be practised. The neat and careful preparation of medicines is of such importance that it may properly be delegated in

favourable circumstances to one specially devoted to it. It is not the fault of medical men that such an arrangement as is said to obtain at Margate is not in much more extensive use, where medical men and druggists are under mutual obligation—within reasonable limits of course—the former not to dispense and the latter not to prescribe. If druggists would show less disposition to prescribe and to make secondary uses of medical prescriptions, and if they would contrive better to adapt their charges to the means of patients as medical men have to do, they would do much to hasten this division of labour. It is no part of this argument to disparage the legitimate business of druggists, which is a dignified and worthy one; but we deny entirely their right to prescribe. The General Medical Council at every meeting removes from the Register medical men for allowing unqualified practitioners to act as if they were qualified. This is what many druggists do, even in grave cases, often with grave results; and it hinders that coöperation and confidence of medical men which we all desiderate.

Annotations.

"Ne quid nimis."

SEWAGE ORGANISMS AND DISEASE.

IN previous reports[1] presented to the London County Council Mr. J. Parry Laws, F.I.C., made the important observation that the micro-organisms contained in sewer air were not only less in number than the micro-organisms in fresh air in the vicinity at the same time, but that they were also apparently related to and derived from those of fresh air rather than sewage, while there was no evidence forthcoming that sewage was able to give off micro-organisms to the air in contact with it. Acting on the instructions of the Main Drainage Committee of the Council this investigation has been extended by Mr. Laws, with the assistance of Dr. Andrewes, to a study of the organisms existent in sewage. From a copy of the valuable report which has recently been issued, and which contains a careful series of well-chosen and laborious experiments, we gather the following materials. The most striking difference in the bacteriology of sewage and sewer air appears to be the absence of moulds from the latter, while in the former moulds were found to be a predominant feature. The bacillus coli communis was found, with one exception, in each sample of sewage examined, but neither it nor its allies were ever found in sewer air. The bacteria of sewage rapidly liquefy nutrient gelatine, while organisms possessing this property were practically absent in sewer air. This evidence would seem to be conclusive that there is no relationship between the organisms of sewer air and sewage, and the writers are thereby led to think that some of the ill-effects which have been erroneously (?) ascribed to sewer air may be due to subsoil air derived from soil polluted by constant infiltration of excremental matter, but suggest that it is not until the outer margin of the permeated soil has become dry that the air is infected with organisms. In a search for the typhoid bacillus in sewers, where it might be expected to be present in large proportion, such as in the drains of the Eastern Hospital at Homerton, they were successful in demonstrating the actual presence of the bacillus typhosus; but in a sample taken about a quarter of a mile away no single colony developing on culture could be referred to the bacillus of typhoid fever. In the light of this and other results it is concluded that sewage, even in the absence of the normal micro-organisms which it contains, is clearly an unfavourable medium for the growth of the typhoid germ, whereas the colon bacillus can grow and multiply freely in it. It might be anticipated, it is pointed out, that in competition with other organisms, able to grow well in sewage, the typhoid bacillus would die out even more speedily. These experiments are only preliminary and are necessarily incomplete, but they give a distinct indication of the probable fate of typhoid bacilli which gain access in a living condition to sewage, while it seems "clear that sewage does not form a medium in which much, if any, growth is possible for them under natural conditions, and their death is probably only a matter of a few days, or at most one or two weeks." Obviously, this resistance to growth may be overcome by attenuation, as when sewage has access to the drinking supply or to milk. It would appear, then, that so far as bacteriological analysis goes there is no ground for believing that sewer air plays any part in the conveyance of typhoid fever; but are the conditions under which the bacteriological examinations of sewage and of sewer air are made such as to give us absolute assurance on these and other points? In spite of its apparent bacteriological innocuousness no one entertains the least doubt that sewer air is a constant source of disease, and if this is not to be referred to micro-organisms to what may it be ascribed? There is undoubtedly a poisonous agency at work when sewer air is inhaled, which, though it may not directly act, yet so prepares the soil that the system is unable to resist the invading organism when it comes. In some well-known experiments recorded in THE LANCET[2] it was shown that when rats, amongst other animals, were inoculated with a weak growth of typhoid culture, after previously being exposed to sewer emanations, they nearly all succumbed. On the other hand, rats treated to the same dose of typhoid culture, but exposed to fresh air after inoculation, showed little sign of illness and eventually recovered. What, then, is this poisonous constituent of sewer air which leaves the system defenceless against the attacks of the microbes which it may encounter? An investigation on this point would form, we suggest, an excellent and fitting sequel to the above valuable contribution.

SNOW SALT, AND SLUSH.

EVERYONE will agree that the severe and bitter cold we are experiencing just now hardly requires accentuating. Eight degrees of frost all day in London, with probably twice that number registered in the suburbs, require no ordinary amount of endurance on the part of pedestrians, but to reduce this to zero by artificial means on the pavements of our streets is intolerable and unnecessary. Yet the sprinkling of salt in the streets appears to be the only means which has occurred to the street authorities for removing the fallen snow. It is a matter of common knowledge that such a mixture produces instant liquefaction and consequent great absorption of heat, and the temperature of the resulting mixture, *pro tempore*, sinks to zero. But this is not all; the mixture, being saline, remains wet at a temperature considerably below freezing point, so that the pavements are made much more uncomfortable and cold than they would be if nothing at all was done. There is little doubt also that the salt solution, finding its way into the soles of boots, renders them permanently damp and therefore permanently cold. The roads (for we must bear in mind our four-footed friends) and the pavements should be swept immediately after a fall of snow, or, if salting must be done, the saline slush could be "squeegeed off" the moment it is formed so that we may have at least a dry footway. The street sanitary authorities should surely use their powers and, if unable to do the work

[1] THE LANCET, March 24th, 1894.

[2] THE LANCET, Sept. 29th, 1894.

themselves, encourage the occupiers of each shop to keep the adjoining pavement properly and promptly clear of snow for the comfort of the passers-by, amongst whom must be reckoned their customers. It is well known that the prevalence of cold weather is a factor which largely contributes to increased mortality, chiefly referable to diseases of the respiratory organs, and some little care should, therefore, surely be taken to exclude anything that is calculated to aggravate any liability of this kind. Prolonged and excessive coldness with dampness of the feet is a likely enough source of illness, and what is calculated to produce cold and wet feet more effectually than a wet freezing mixture, which is exactly what our feet are exposed to when snow is sprinkled with salt?

THE ABUSE OF MEDICAL CHARITIES.

WE see with much satisfaction that the *Westminster Gazette* is publishing a series of articles on the above subject by "Scrutator." It is of great importance that the lay press should take up this subject and impress it on the public mind. In his first article "Scrutator" says that in the majority of cases hospital managers in no way concern themselves with the abuse practised on their institutions by those for whom they were never intended. The sole concern of the managers is to give an imposing account of the numbers relieved, and especially to show that they are increasing at an ever-increasing ratio. If their appeal to the public for more funds cannot be based on the fact of an enlargement of premises the next favourite basis is an increase in numbers. This, of course, is chiefly in the out-patient department, while the accommodation for in-patients is often a diminishing quantity and consists in displacing poor patients for those who can pay. Such evils are familiar to the medical profession, and will increase year by year unless public feeling is aroused to condemn them. If we might be allowed a word of criticism on "Scrutator's" first article on this subject we would say it deals too much in general statements. The strength of the case is in details of individual hospitals, and in close investigation of the circumstances of individual cases.

FIRST AID ON SHIPBOARD.

THAT measure of acquaintance with the rudiments of medical and surgical knowledge which is comprised under the term "First Aid" is probably more essential to seafaring men than to any other class of the community. The nature of their adventurous calling exposes them continually to bodily risks of all kinds, and limits each ship's company to its own resources in the event of any illness or injury, however grave. The Passengers Act requires that British foreign-going vessels on which there are fifty passengers shall carry a medical man, and the Merchant Shipping Act has a like requirement in the case of all foreign-going vessels having 100 or more persons on board. The large number of vessels not fulfilling these conditions, and consequently not provided with medical officers, affords frequent opportunities for amateur surgical practice at sea, some interesting particulars of which were given by Mr. A. M. Cato, M.R.C.S., L.R.C.P., in a paper read before a meeting of the Shipmasters' Society, London, held on Jan. 21st at the Fishmongers' Hall. He states that the sailing ships and steamers which do not carry surgeons number about 5600, and that their crews amount to the large total of about 140,000 persons. The numerous cases of disease and injury occurring among this great body of men, scattered everywhere over the face of the ocean, are necessarily treated by the officers of the vessel, who have at their disposal the stock of drugs authorised by the Board of Trade and contained in the medicine chest. Some guidance in the use of these medicines is provided in a small "Book of Directions," also contained in the chest. In nautical life surgical emergencies are perhaps more numerous, and certainly more conspicuous, than equally urgent illnesses requiring medical treatment. As the ship's officers will in most instances have the management of these cases to their termination, something more than the ordinary first aid will often be required. Mr. Cato judiciously proposes that when the classes are composed of seafaring men the five lectures constituting the first aid course of the St. John Ambulance Association might be somewhat extended. Another recommendation of his—viz., that ship's surgeons might be authorised to give first aid instruction while at sea—is well deserving of favourable consideration. The officers and petty officers who have learned something in this way will naturally in the course of their service find themselves on board vessels on which there is no surgeon, and opportunities for putting their knowledge in practice will sometimes occur. It is satisfactory to find that the Board of Trade acknowledge the utility of instruction in first aid by endorsing on an officer's certificate of rating the fact that the owner also possesses the certificate of an ambulance association.

A SPECIFIC AND ITS SUPPORTER.

A CORRESPONDENT signing himself "M.D." has written to the *Morning Post* advocating the employment of a certain substance in the treatment of diphtheria. He says, "I know neither its origin nor composition," and yet he does not hesitate to guarantee the nostrum as "absolutely safe," or to try to lead his readers to believe that it acts as an infallible specific. The apology advanced by "M.D." for addressing his communication to a lay paper is in itself condemnatory. "I take the unusual course of publishing it in your journal because it will thus be brought directly before the public without loss of time, whereas in a medical paper it would probably receive no notice unless I were to publish a detailed report of some hundred cases." An anonymous endeavour to puff a quack remedy would not be worthy of notice if it were not for the fact that the communication containing it appears in the columns of a highly influential and well-conducted paper. This fact we take to be a sufficient guarantee that the writer is in reality what he professes to be—a medical man; and we feel bound to draw his attention to the grave irregularity of which he has been guilty. It is possible that a letter from the sole agent for the company supplying the drug, which appeared in the *Morning Post* four days after his original communication, has already opened his eyes.

A NICE DERANGEMENT OF PLATITUDES.

OF late there has been a boom in what we may call the pathological medical novel and now a member of the medical profession has determined to return the compliment and publish a "novel" medical work. True, he calls it the Family Physician, and what a delightful picture of both the family and the physician is here presented. "Woman's sphere," he says, "is not to sparkle in the realms of literature, but to shine with a clear, steady and warm light in her home, while affection glows in her eyes to the exclusion of critical hauteur, and children comprise her companions instead of books on recondite philosophy." So much for the family. When we come to the physician we are much struck by the novelty and soundness of his remarks. "Jaws," he gravely tells us, "as is well known, form a portion of the skull, and are employed in the process of mastication." Also Her Majesty Queen Anne is dead! "Jejunum is the *lower* portion of the small intestine." Mr. Ruskin, if we remember rightly, in "Modern Painters," says that the Greeks had a deficient colour sense, and gives as an instance, amongst others, the term "hyacinthine" as applied to hair. Our author knows all

about it. *Sub voc.* "Hair" we find: "Hair in many ways resembles a plant, as it grows from a follicle within the skin..... Its mode of growth is very similar to that of the hyacinth." We commend this book with a few errata to the notice of pure literature societies and village library committees or school boards as an exercise in grammar. Take the following: "Salads when combined with animal substances and the different varieties of fish often enable one to eat, in consequence of their palatable composition, when they might not be able to do so were the more common varieties of food presented to them." The picture of an anorexic salad is indeed touching.

DIPHTHERIA IN LONDON.

UNHAPPILY the constant decline in the death-rate from diphtheria in London witnessed since the first week in January has received a decided check. Whereas in the three succeeding weeks the deaths were respectively 34, 31, and 29, they rose last week to 45, and were 12 in excess of the corrected average. Only 1 occurred in an infant under one year of age, but 31 in the next four years of life, and 11 in young people under twenty years of age. They included 7 in Islington, 6 in Camberwell, 3 each in Mile End Old Town, Newington, and Plumstead, and 2 each in five other widely separated sanitary areas. The cases admitted to the hospitals of the Metropolitan Asylums Board were last week 76, or almost identical with those of several recent weeks; whilst the cases remaining under treatment last Saturday (519 in number) showed but little variation, having been 517, 514, and 523 on the three preceding Saturdays. In Greater London there were 12 deaths registered last week as due to diphtheria, including 5 in West Ham district.

THE EXPOSURE OF AN INFANT.

AN inquest was held by Mr. Luxmore Drew at the Fulham mortuary on Jan. 23th touching the death of the newly born male child of Florence Blanger, a domestic servant. From the evidence it appears that the girl went into residence at the house of a midwife for the purpose of being confined, and that she made arrangements for the child to be taken away to be nursed. Only two hours had elapsed from its birth when the infant was removed by the person charged with its care. The weather at the time was bitterly cold, and there is little cause for surprise at death occurring two days later. The post-mortem examination showed that the child, though small, was healthy except for the acute disease which ended its life. The lungs had been fully inflated by natural respiration, but each showed marked congestion passing into pneumonia. It has been said that "death from starvation is death by cold." In this case there was partial starvation, since very little nourishment had been taken, and in addition there was direct exposure to a low temperature. The fact of the child having been well wrapped up was no protection against the deleterious effect of admission of cold damp air to the delicate structures of the lungs, and at a time when these organs are, so to speak, in a state of physiological embarrassment, at the time of inception of respiration. To say the least, such exposure showed gross carelessness on the part of the midwife—who could not shield herself under the claim of gross ignorance—in allowing a child of such tender age to be heedlessly submitted to climatic conditions sufficient to test the strength and endurance of the most robust adult. Guided by the able and lucid address of the learned coroner, the jury forebore to bring in a verdict of manslaughter, but to their finding that death was from natural causes they added a rider to the effect that the midwife was deserving of severe censure. They expressed their "strong condemnation of the system of houses for wholesale confinements and distribution of children being unlicensed," and urged "that all such houses and every person taking a child to nurse should be registered." We endorse every word of this presentment. Much has been done by the Legislature to protect infant life, but a consideration of the above case shows there is still urgent need for a further enactment.

NURSE OR MIDWIFE?

A CORRESPONDENT has sent us the first annual report of the Lincolnshire Nursing Association, in which a system of nursing is described as an alternative to the system of nursing with nurses of higher training, and as applicable to poor districts or villages in the country which are too poor to employ the latter class. The training "consists of three months' training in midwifery, at the end of which they pass the L.O.S. examination and receive its diploma" (*sic*); also three months' training in monthly nursing, with as much instruction and training in general sick nursing in the district as can be given in so short a time. We observe that the committee of the association recognises the entirely limited nature of the training and aptitudes of these women, and wishes to subordinate their action to the medical men of the districts in which they are employed. We do not gather that any of them have been employed by the Association as midwives, but rather surgically. Their training, such as it is, has been procured mainly by county council scholarships bestowed on selected candidates. Still, it is to be regretted that the document of the Obstetrical Society is spoken of as a "diploma." We do not propose now to discuss fully the scheme of this association, which contains some interesting and even commendable features. We only observe the report as an illustration of two things—first, the prominence of the "diploma" of the London Obstetrical Society; and, secondly, the efforts of poor districts to supply a class of women with some slight training when the more thoroughly trained nurse is an impossible luxury.

STREET SHELTERS IN RELATION TO THE POOR AND TO THE PUBLIC.

A REPORT issued last week by the Charity Organisation Society on the condition and the social and sanitary effects of street shelters in Whitechapel is of interest as a criticism upon the tendencies of this method of relief. Briefly summed up it amounts to a verdict of unqualified condemnation. The good intention of the charitable originators is admitted, but experience, it is said, has proved their whole system to be founded upon a fallacy. Due account has not been taken of the frailty of human nature. The shelters do not, we are told, become centres of improvement tending to engender self-respect and independence in their occupants. Instead of this, they have been found to promote idleness and neglect of social and domestic obligations. Those who tenant them at night pass the day in begging or equally unprofitable pursuits. The internal management falls far short of what is desirable. All manner of persons are herded together indiscriminately, and crime, dirt, and disease find among them a common home, secure from the inconvenient intrusion of the police or of sanitary inspectors. Furthermore, the shelters act as hindrances to other and more carefully administered measures of charity. Those who resort to them would under other circumstances come under the notice of parochial guardians or in contact with voluntary agencies not a whit less charitable than the shelter committees, but in their methods and purpose elevating, educative, and opposed to pauperising tendencies. The shelters do no more, in fact than their name barely indicates, unless it is to hold the pauper contented in his degradation and careless

of his duty as a member, even if a poor member, of an industrious community. A more damning indictment than this could hardly be conceived. Unless the statements contained in it should be very materially modified on further examination the free, or virtually free, shelter is no better than a nursery for social weakness and iniquity. To the absence of inspection, which is one of the most regrettable features of this system, we have already directed attention,[1] and we consider it to be absolutely essential that this anomaly should be done away with by legislation if the shelter is to enjoy even a permitted existence amongst us.

TAXATION AND THE MEDICAL PROFESSION.

THE time is coming round when the Chancellor of the Exchequer will be engaged in considering, on the one hand, how he can raise the money which he needs, and, on the other, how he can relieve the taxpayers who are entitled to his consideration. A correspondent with much force argues in favour of a reduction in the inhabited house duty paid by medical men on the ground that their house is a part of the heavy expenditure necessitated by their profession. Other classes are favoured in respect of this particular tax whose claims are not any stronger than those of the medical profession. It is not too much to hope, considering the modest proportions of medical incomes and the large deduction to be made from them for unavoidable expenses of practice and the initiatory cost of medical education, that the principle of exemption will be so stated as to apply very freely to them. There has been a disposition to regard medical men as being among the classes with comfortable incomes unaffected by the vicissitudes of commerce and earned without much labour. No mistake could be greater. Their incomes are small and precarious, and they represent an amount of labour and risk greater than that of almost any other calling. Under these circumstances we appeal to the Chancellor of the Exchequer, not for pity, but for justice.

TABES AND GENERAL PARALYSIS.

IN the *Archives de Neurologie* a paper on this subject recently appeared by Dr. Chabbert, which is shortly abstracted in the *Neurologisches Centralblatt*. The relation of the two diseases is considered with special reference to the case of a woman aged forty-three, who had suffered from syphilis in her thirtieth year. In 1889 she had had severe neuralgic headaches, giddiness, and amblyopia. The difficulty in regard to vision passed off after six months. A year later she had during a period of ten days attacks of sickness lasting for one hour and a half to two hours at a time, quite irrespective of the taking of food and unassociated with pain. She experienced a few months later difficulty with both bladder and rectum, which was only temporary. She also had during twelve days sharp lightning pains in the lower extremities. Between 1891 and 1893 she was fairly well, but her sight was gradually becoming worse. After a few months symptoms of general paralysis manifested themselves—extravagant ideas, tremor of the hands, and characteristic articulatory difficulty. There was progressive failure of intelligence, weakness in the lower limbs, internal ophthalmoplegia, and blindness. Dr. Chabbert discusses the question whether the foregoing case is to be regarded as one of tabes dorsalis, followed by general paralysis, or as one of general paralysis with initial symptoms simulating tabes. The gastric crises and lightning pains would favour the former view were it not that, as he remarks, the vomiting was unaccompanied by the severe pain which usually accompanies true gastric crises, and the pains in the limbs were too brief in their duration to be regarded as true lightning pains. Further, the knee-jerks were present all through the illness, and there was no sensory impairment. All these facts lead him to believe that in this particular case no true tabes was present, but that the symptoms which were observed in the early stages of the illness are to be regarded as early indications of general paralysis. It seems to us that a wide question like this is not to be settled by reference to a single case. That there is a close connexion between tabes dorsalis and general paralysis no one, we venture to think, who has had much experience of either disease will think of denying. If the essential lesion in tabes is to be regarded as posterior sclerosis it is also indubitable that certain cases of general paralysis have symptoms of tabes long before any unequivocal symptoms of dementia are present; and that the one disease should occasionally merge into the other is not to be wondered at if, as most authorities now agree, syphilis is to be regarded as a causal factor in each.

[1] THE LANCET, Dec. 23rd, 1893.

THE MAKING OF MENDICANTS.

WE must congratulate the council of the Charity Organisation Society upon the practical unanimity of their recent meeting for the purpose of putting a stop to charitable mendicancy, for so we desire to term the custom of sending children into the streets to beg for contributions to charitable institutions. That this practice has increased very much within the last few years no one will deny—in Piccadilly, Kensington, and Chelsea especially so, Sloane-square being a sort of focus. Boxes are rattled in the face of passers-by by children not infrequently tricked out in some fantastic garb, and the pennies of the good-natured thus obtained on behalf of charities which may be perfectly reputable or may be, for all information to the contrary that can be obtained, questionable. Our experience of this method of collection is that the sum received by the charity when collected by these means amounts to about one-third of the total collected. We are sure that any self-respecting hospital or institution which has been driven to collect money by these means would gladly welcome any way of repressing the evil, and indeed we are not sure that the repression of the practice of street collecting by the Hospital Saturday Fund might not be included in the scheme of reform.

A MODERN IMMORTAL.

NEARLY fifty years have passed since a discovery was made which was to revolutionise surgery, and not until now, except upon his tombstone, has the name of the discoverer been inscribed in any public place. At the end of last year—to be accurate, November, 1894—the State of Massachusetts placed the names of fifty-three of her most celebrated sons in the new chamber of the House of Representatives in Boston. Prominent among these is the name of Morton, to whom belongs the immortal honour of having been the first to demonstrate that prolonged anæsthesia could be safely produced by means of ether. It is a fitting coincidence that at this time Boston should be preparing to decorate her library with the Legend of the Holy Grail—a Christianised version of the old Celtic story of Ceridwen's cauldron, which offered life and freedom from care and pain to all who drank from it; and who will deny that anæsthetics are a life-prolonging draught to thousands who partake of them and that pain is robbed from the sufferers while they sleep? In some memoranda kindly sent to us by Dr. W. J. Morton of New York, is an interesting letter from the late Oliver Wendell Holmes, dated Nov. 21st, 1846, addressed to Dr. Morton, in which he says, "Everybody wants to have a hand in the great discovery." He goes on to suggest that the state produced by the new agent should be called "anæsthesia," and the adjective should be "anæsthetic." He draws special attention to the necessity for having

an appropriate name, for "the term will be repeated by the tongues of every civilised race of mankind." Morton, as is generally the case with benefactors of their species, died at an early age, worn out and in poverty.

SIR SYDNEY WATERLOW.

IT is gratifying to us to see accounts of the improvement in Sir Sydney Waterlow's health. He has been somewhat seriously ill, but is said to be making gradual progress towards recovery. Sir Sydney Waterlow is identified with many causes of public and social importance, notably with the Hospital Sunday Fund and with the housing of the working classes. All who have worked with him will desire his complete restoration to health, so that he may continue to afford assistance and counsel in these great questions.

CHARGE OF MANSLAUGHTER AGAINST A MIDWIFE.

DR. DANFORD THOMAS on Tuesday last concluded an inquiry into the circumstances attending the death of Hilda Gray, aged twenty-four, of Peckwater-street, Kentish-town, from puerperal fever. She had been attended by a midwife, by name Rake, who, it is alleged, had continued to attend cases after being requested by Dr. J. F. Sykes, the medical officer of health of St. Pancras, to desist from doing so, his attention having been called to three cases of puerperal fever in patients under her charge, and subsequently to two more, and then to three more—eight in all. It transpired in the course of the inquiry that of these eight cases five had died, and Mrs. Rake was committed for trial on a charge of manslaughter. Under these circumstances we withhold all comment on a very painful case.

THE DIFFUSION OF SMALL-POX.

LAST week there was a considerable rise in the number of fresh cases of small-pox notified in London, the increase being due, however, to the rapid manner in which attacks occurred in one sanitary area—namely, Marylebone. To this parish also belonged the two deaths registered from small-pox in London during the week, one being in an unvaccinated infant under one year of age and the other in a person in the age-period five to twenty years, concerning whose state as to vaccination no information is given. The admissions to the institutions of the Metropolitan Asylums Board numbered 21, against 8, 6, and 8 in the preceding three weeks; and the total number of patients remaining under treatment on Saturday last was 51, an increase of 16 in the week. The fresh cases were 22 as compared with 7. News of a case comes from Leicester, and Smethwick and Aston Manor each had multiple attacks recorded. At Birmingham matters have taken a happy change, the new cases numbering less than half a dozen, no death being registered. During the concluding quarter of 1894 the notified cases of small-pox were 401 (as against 2 and 583 in the two preceding fourth quarters), 70 cases being notified in the fifth week of the quarter; the disease declined towards the close of the year. The deaths numbered 32 among the 401 cases, or 8 per cent., the 19 deaths among 356 vaccinated patients being equal to 5·3 per cent. of cases, and the 12 deaths among the 31 unvaccinated patients being 38·7 per cent. of those cases. It speaks well for the organisation of the health department that 395 of the cases were removed to the City Hospital. Two or three attacks occurred in Bootle and some half a dozen in Liverpool last week, no death, however, having to be chronicled. Dr. Hooper has reported to the Toxteth board of guardians that in the Toxteth district, to which the prevailing outbreak of small-pox has been almost entirely confined, three times and a half as many children escape vaccination as compared with Liverpool proper, and that in one small locality alone no fewer than 230 unvaccinated persons had been found. The marvel is that the outbreak has been such a mild one. We trust that the area may not yet have to learn the danger of delay. In Dublin the fourth week of January witnessed a rise from 61 to 64 in the number of admissions to hospital, 73 patients being discharged and 171 remaining under treatment, in addition to 147 convalescents at Kilmainham; of 7 deaths which occurred, 3 were in vaccinated and 2 in unvaccinated persons. No statement could be made as to the two remaining. It now transpires that the corrections noted in THE LANCET of the 2nd inst. were not called for, the Registrar-General having reaffirmed the data as presented in our columns of Jan. 26th as to admissions and remaining cases. At Newry there were 21 cases in hospital at the beginning of this month, one death having occurred in January. Schools have been closed for six weeks, and hundreds of persons have secured the benefits of vaccination at the dispensary. Of the 52 deaths from small-pox in Ireland in the last quarter of 1894, only 1 (in Londonderry) occurred outside the Dublin registration district. Small-pox continues to be heard of in Edinburgh and district, 7 cases having been reported in the city in the fourth week of January and 1 death having been registered in Glasgow and in Leith respectively.

COIR FIBRE FOR SOLDIERS' BEDDING.

THE Secretary for War, when introducing the Army Estimates in the House of Commons in March, 1894, referred, among other improvements, to the issue of coir fibre bedding in place of straw bedding—a change greatly to the comfort of the soldier. He added that the change necessitated an increased charge at first, although it would probably cause a considerable saving eventually to the department. There can be little doubt that Mr. Campbell-Bannerman spoke advisedly in these respects; the use of coir fibre as a substitute for straw for bedding, in addition to its hygienic advantages, adds to the soldier's comfort and is also calculated to effect a considerable saving to the State. It appears that this subject was brought to the notice of the Surgeon-General of Her Majesty's forces in India by Brigade-Surgeon-Lieutenant-Colonel Hill Climo in 1884 and that coir bedding is, by orders of the Government of India, used for British troops serving in that country. Brigade-Surgeon-Lieutenant-Colonel Climo, impressed with the advantages—hygienic and financial—of coir as a substitute for straw, subsequently, we believe, brought the subject to the notice of the military and War Office authorities of this country, and the use of coir for soldiers' bedding was experimentally tried and tested for some time at Aldershot, with such a measure of practical success that it was adopted. The officer who so zealously interested himself in getting this reform introduced into the army has since retired from the service. Assuming what we have said to be a correct statement of the facts, we should like to know whether his services in this direction have ever obtained any recognition or reward.

"THE NEW STREET DANGER."

ACCIDENTS in connexion with underground electric light mains are reported from Rochester, Eastbourne, and Dover, and on the 2nd inst. there occurred the more serious disaster at Southwark-bridge. In this last instance it appears that coal gas escaping from a main under the carriage way had found a path into the electric light culvert under the footway, and becoming ignited the explosion had blown up the pavement, the covers of four junction boxes being "shot up some distance into the air." Five persons were injured. One of these "suffered from shock," and others from bruises and wounds. This is, we believe, the sixth accident of the

kind which has occurred in the City during the past two years, and in one case, at least, the vestry were advised of the danger beforehand and of the method of remedy. A time will probably come when electrical engineers will find themselves in practical agreement as to the best and safest systems of laying underground electric lighting mains, but in the meantime existing systems have to be dealt with. It is evident that underground electric main culverts and "boxes" constitute in some instances reservoirs of considerable capacity for an accumulation of escaping coal gas, which, unmolested and ever increasing, only awaits the electric spark or arc or red-hot conductor, or the lamp of the workman or a discarded match, to determine its explosion. The means of minimising this kind of danger by ventilation, drainage, insulation, and attention to the construction of street boxes with a view to the reduction as far as possible in their capacity, are sufficiently well known. And searching inquiry should follow all such accidents. But it may also be suggested that inspection might materially diminish the frequency of their occurrence.

A HEALTH MANUAL FOR THE PEOPLE.

THE Imperial Health Institute of Berlin, which has done so much to advance sanitary science in its highest and widest sense, has lately issued a small manual of health for popular use and at a popular price (it is only one mark) under the title of "Gesundheitsbüchlein." Within its 254 pages it comprises a brief account of the structure and functions of the body; it then deals with individual or personal hygiene, in respect to air, water, soil, food, clothing, dwelling, work, and rest. Next comes what may be called social hygiene, and a fourth section deals with the dangers to health from external influences, as climate and weather, infection, and accidents. An appendix gives some counsel on the care of the sick. Dr. Gärtner, who in the *Fortschritte der Medicin*, notices appreciatively this new departure of the State Department interested with the care of the public health, points out that in some matters the book hardly speaks positively enough, although he fully recognises that a work issued from so authoritative a source must needs be cautiously worded.

NINETEENTH-CENTURY VAPOURS.

IN the current number of the *Contemporary Review* there is an interesting article by Professor Clifford Allbutt, which we recommend to our readers on account of its cheery optimism. All of us who read have been made much aware of late of the presence among us of a noisy if small band of Jeremiahs, who tell us persistently that the world is worn out; that madness and neurotic diseases increase day by day; that all the old safeguards of morality and religion are one by one being broken through; that, in short, nothing and no one is any good. The cry is a very old one, and none the more true for that; but its supporters are many of them eloquent with voice and pen, and any opinions shouted loudly enough are sure to command a hearing. But, we repeat, it is not true, and is made the excuse for a good deal of meddlesomeness. We are living, in fact, in an island of Polupragmosyne, where, as Charles Kingsley says, "everyone knows his neighbour's business better than his own, and where all people set on the wayfarer to show him that he does not know his way and to demonstrate incontestably that, whichever way he is going, he is going wrong." Modern life, with all its complexities, is of course a very different thing to the simple existence led by our forefathers, but there is no proof that we are not fully equal to the divers strains. There will always be those who fall by the way, but this is not a calamity peculiar to our generation, and for one of us that fails from over brain work surely two of our ancestors were wont to succumb to the hard work of idleness. It is, to quote Professor Allbutt, "rather the conditions under which work is done than the work itself which is mischievous." "The secret of health," he goes on to say, "and the secret of virtue, which is the health of the mind, are happily one, and it lies in the concern of the active intellect with the sensations which bear upon us without." The healthy exercise of the mind is to the brain—the heart of the nervous system—what bodily exercise is to the bodily heart, honestly done work demands as its complement honestly taken pleasure, and neither if not abused can harm either body or mind.

DEATH AND HIS BROTHER SLEEP.

IT is difficult to see what purpose, either scientific or pleasurable, can be served by "experiments" like that now being carried on at the Westminster Aquarium. The possibility of human beings existing for days in a cataleptic or trance state has, we believe, been proved over and over again. But if this were not so, if the Aquarium were exhibiting for the consideration of laymen a real medical curiosity, it would still be altogether unfitting that Dr. Forbes Winslow, a Member of the Royal College of Physicians of London, should lend himself to the furthering of such a show. He is reported in the *Times* of Feb. 2nd as saying that there was no recorded instance of a person sinking while in a hypnotic trance. Now, just such a death occurred in Hungary last year, the case being that of a girl to whom it was "suggested" that she had phthisis, and the tragic affair was made the subject of more than one comment in our columns. Did not Colonel Townsend also—we have not the reference at hand—die in one of his self-produced trances? Dr. Forbes Winslow appears to us to have not only taken upon himself an unwise and undignified task, but, if he has been correctly reported, to have disseminated wrong information. The temperature of the first of the Aquarium performers fell to 95·4° F. after being some twenty-four hours in his unnatural condition, whereupon he was awakened, and no one will say that it was not the wisest course to pursue. Since writing the above we have received a letter from Dr. Forbes Winslow, and also one from Dr. Norman Kerr, which are published in another column; while we learn that a second subject who was placed under hypnotic influence last Monday has showed signs of a flagging circulation.

HOSPITAL SMALL-POX INFECTION.

DR. CHARLES PORTER, the medical officer of health of Stockport, has placed on record two curious and interesting cases in which the infection of small-pox was received in the ward in the borough hospital in 1893 under very exceptional circumstances. In the first instance, a child admitted to the scarlet fever ward in January was found to have the papular eruption of small-pox a month later. Minute investigation failed to discover the cause of infection, until it was found that a cat, secretly kept by an attendant in the ward, had visited the small-pox pavilion. Needless to say that the "harmless, necessary cat" was expelled at once and proper measures of disinfection and sulphur fumigation were taken in the ward. The second instance occurred in the same scarlet fever pavilion a fortnight later, and its relation to the small-pox ward was discovered quite accidentally. Dr. Porter traced a smell of sulphur in the latter ward, then empty, at the end nearest the scarlet fever pavilion, and investigation led to finding an unsuspected subway between the two wards, by means of the tunnel along which the heating pipes were carried. The higher temperature of the fever ward had, says Dr. Porter, evidently drawn in air from the small-pox ward. One or two points, however, do not seem to us to be quite clear as to the cause or causes of these two cases of small-pox. First of all, nothing is said as to the condition of the patients as to vaccination. And

next, granted the source of the first case, might not the second have derived infection therefrom, nothing being said, however, as to the date of admission of this second case? And, again, may not both cases have derived their infection aerially? But at any rate the hypotheses advanced are of interest, especially in view of the fact that after elimination of the supposed causes of the disease no further secondary cases of small-pox occurred in the hospital. Still, we are glad to find Dr. Porter, in another portion of his annual report, advocating separate hospital accommodation for small-pox.

THE DANGERS OF CIRCUMCISION.

SOME interesting letters on the risks of circumcision appear in the *New York Medical Record* of Jan. 26th. They do not deal with the rite as such, but with certain dangers incidental to its careless or unskilful performance. One question is whether it can be performed as safely by the Jewish mohel as by a surgeon acquainted with all the details of antisepticism, and the argument of the writers is strongly in favour of its being done by the educated surgeon. Dr. Henry Levien has examined the reports of the Board of Health and found circumcision reported as a cause of death sixty-seven times between 1881 and 1894 inclusive. He attributes the greater mortality since 1881 to the great increase in the Hebrew population since that date. Dr. Martin Schwartz denies that the mohel is an expert in the sense that the physician is, and says he has seen various mutilations as a result of his operation, such as cutting off part of the glans penis, removal of too much foreskin, and in one case the removal of a piece of the scrotum the size of a half-dollar. The practitioners of the east side of New York, he says, are frequently called to hæmorrhage in such cases. The mohel knows very little of sepsis, and ties up the wound with dirty rag. Neither his hands nor instruments are antiseptic, and he is in the habit of sucking the wound with his mouth, with the risk of contact with any carious teeth or syphilitic or other sores of the mouth. That circumcision by the mohel does not figure more frequently as a cause of death is attributed to the fact that if complications arise the physician is called in and saves the patient. It must be admitted that in this country we seldom hear of such accidents, but the questions raised are serious ones and worthy the consideration even of those who regard the operation as a religious duty.

THE Lord Mayor will take the chair in the Egyptian Hall at the Mansion House on Wednesday afternoon next, Feb. 13th, at 3 P.M., at a meeting to be held in aid of the special appeal fund for St. Thomas's Hospital. As we have already announced, his Lordship will on this occasion be supported by H.R.H. the Duke of Connaught, the President of the hospital; and among others who will be present we may mention the Bishop of Rochester, Sir William MacCormac (consulting surgeon to the hospital), Sir Stuart Knill, Sir Albert Rollit, Dr. W. M. Ord (senior physician to the hospital), and Mr. Mackellar (senior surgeon to the hospital).

DR. MANSON will lay the results of his work on the Malaria Parasite before the Hunterian Society at the London Institution on Wednesday next, at 8.30 P.M. This communication will form the Annual Oration for 1895, and all members of the profession are at liberty to attend.

SIR RALPH THOMPSON, K.C.B., has been appointed Chairman of the Weekly Board of the Middlesex Hospital, W., in the room of Lord Sandhurst.

A SPECIAL MEETING of the council of the Charity Organisation Society will be held on Monday next, Feb. 11th, at the Hotel Victoria, Northumberland-avenue, at 3 P.M. Mr. W. Bousfield, chairman of the council of the society, will preside, and Colonel Montefiore will read a paper on the Need of a Central Hospital Board in London, with special reference to the promotion of uniformity in the system of admission to hospitals. Sir John Erichsen and Dr. W. M. Ord are announced to take part in the discussion.

DIFFICULTIES UNDER THE INFECTIOUS DISEASE (NOTIFICATION) ACT.

III.[1]

3. *Action to be taken as the Result of the Visit.*

THE purport of the visit to be paid by the medical officer of health, when he regards the information conveyed to him as involving an "outbreak of any contagious, infectious, or epidemic disease of a dangerous character," is very clearly set out in the official Order. It is that he shall "inquire into the causes and circumstances of such outbreak, and in case he is not satisfied that all due precautions are being taken he shall advise the persons competent to act as to the measures which may appear to him to be required to prevent the extension of the disease, and to take such measures for the prevention of disease as he is legally authorised to take under any statute in force in the district or by any resolution of the sanitary authority."

One of the first objects, then, is that the medical officer of health shall determine whether or not he is satisfied that all due precautions are being taken which are required to prevent extension of the disease, and he is to advise accordingly. Now it is evident that he cannot in a number of instances form a proper judgment as to this without some sort of communication with the medical practitioner in attendance on the case; and it is doubtless for this reason that the Local Government Board have so often suggested that there should be harmonious coöperation in such matters. Thus, they wrote in one case: "It is of the utmost importance that he (the medical officer of health) should act in harmony with the medical attendants of the sick, so as to obtain from them the valuable assistance which they can afford to him in his work." In another case they wrote thus: "They may observe, however, when the patient is under the charge of a private medical practitioner the medical officer of health should, no doubt as a general rule, confer with such practitioner in considering what precautions should be taken to prevent the spread of the disease, but that where conference could not be had it would not be right to delay local inquiry into the matter." We must admit that in large urban centres where the poorer and the labouring classes are thickly congregated there might be much difficulty in complete compliance with this injunction; but, on the other hand, we are convinced that in such cases medical practitioners will leniently view any departure from it, especially if they know, from the general action of the health officer, that he makes it a point, where practicable, of securing the harmonious coöperation indicated. Indeed, many medical practitioners gladly welcome the advent of the sanitary officials with their printed forms as to precautions, their disinfectants, &c.; and in well-organised urban and other districts it is by no means always necessary that the action to be taken should involve any other visit, at least in the first instance, than that of the sanitary inspector. And there will be many cases, where a visit from the medical officer of health is not needed, when direct communication

[1] Parts I. and II. were published in THE LANCET of Jan. 19th and Jan. 26th, 1895, respectively.

as to a case between him and the practitioner in attendance will not be requisite.

Sometimes difficulty arises as to whether measures of disinfection and the like ordered by a practitioner are sufficient. The responsibility as to these measures, and as to school and other attendances of members of the infected family or household, rests primarily with the medical officer of health; and as a rule his judgment should be accepted as final. But if a difference of opinion does arise such a case will, more than any other, be one where the two medical men should if practicable meet, with a view to that harmonious action so essential under the circumstances.

There have been occasions when a medical officer of health has felt it his duty at once to advise removal of a patient, concerning whom he has received a notification, to an isolation hospital, and much irritation has been occasioned when a medical practitioner has found that, unknown to him, preparations have been made for the removal of his patient or else that the removal has actually been effected at the time when he first hears of it. Recalling some of the cases which have come under our notice we are bound to admit that it is extremely difficult to lay down any rule as to this which shall suffice for application in all instances. In a widely scattered rural district where a medical officer of health finds a patient suffering from infectious disease under circumstances which he feels confident are certain to lead to the immediate spread of infection, and so call for the closure of the schools and the consequent suspension of elementary education; or where he finds that the only disposal of the infected excreta must involve risk to water-supplies, public or other, it must be clear that he has a duty towards the public to act promptly and not to delay action—the whole value of which will depend in its being immediate—merely in order to observe certain professional courtesies. In such a case personal communication before action with the medical attendant might ensure mischievous delay, and he could hardly be expected to do more than inform the medical practitioner as speedily as possible of the instant action which he had found it imperative to take; but, speaking generally of such cases, it might be well to limit immediate action to those patients who are so circumstanced that compulsory removal to hospital could and ought to be enforced. This means that, to use the terms of Section 124 of the Public Health Act, 1875, the patient would be either "without proper lodging and accommodation," or "in a room occupied by more than one family," or "on board any ship or vessel." In most other cases—and, indeed, in all cases where it is practicable—no such action should be taken except after an endeavour to secure the coöperation of the medical practitioner in question.

4. *Cases where the Diagnosis is Matter of Doubt.*

Certificates of notification are at times received by medical officers of health who doubt the correctness of the diagnosis. The cases of this class that have given rise to most trouble are those in which the medical officer of health has reason to doubt whether the patient to whom the notification relates has either any infectious disease at all or is suffering from one that is notifiable under the statute. The case of certificates deemed to be fraudulent has already been dealt with, and we only refer here to cases where the diagnosis is regarded as incorrect, and where no wrong motives can be ascribed to the notifier. The action which we would strongly urge in such cases is that the medical officer of health should always act on the assumption that the certificate is correct even if he doubts it. Fortunately, many leading medical officers of health act on this assumption as a matter of practice, feeling that any loss of time or money which results from processes of cleansing, disinfection, &c., which may turn out to be unnecessary, bear no comparison in importance with the necessity of avoiding friction between the public health department and the local members of the medical profession. The Local Government Board have evidently adopted the same view. Thus, writing on Jan. 28th, 1891, to a metropolitan vestry clerk, that Board said: "The Board gather from the report that the medical officer of health regards it as incumbent upon him to visit each patient and verify by personal examination the accuracy of the certifying practitioner's diagnosis. The Board, however, do not consider that either the Act itself or any Order of the Board imposes any such obligation on the medical officer of health, and it appears to the Board that it would usually be very inexpedient that he should undertake a personal diagnosis of a case notified to him for the purpose of testing the accuracy of the certificate, unless he has reason to believe that the medical practitioner is not acting in good faith. In the present case there is apparently no allegation of bad faith. The question seems to be one of differing diagnoses only, and this in itself is, in the Board's opinion, not sufficient to warrant the rejection of the certificate of the medical attendant." And in a subsequent letter, written in 1891 to a provincial town clerk, the Local Government Board say: "I am to state in reply to the inquiry with which your letter concludes that unless in the cases to which you refer the sanitary authority satisfy themselves that they have sufficient grounds for doubting the good faith of the certifying practitioner the authority should, in the Board's opinion, pay the fees for the certificates."

These two letters set out that which is the habitual practice of most medical officers of health, and it would be well that the advice which they give should be uniformly adopted. In a district where the diagnosis of a case was recently questioned the medical practitioner contended that he, as a bedside practitioner, was more competent to form an opinion than the medical officer of health, who had early in life abandoned clinical work and had for a series of years devoted himself exclusively to public health duties. This is a consideration which is worth remembering, and it incidentally raises the extremely important question as to how far it is for the public benefit that medical officers of health should altogether sever their connexion with clinical and bedside work. Some, indeed, contend that, whilst medical officers of health may in a number of districts be properly prohibited from following general practice, they ought to be encouraged to hold appointments, as, for example, in the capacity of medical officers to institutions, where they would remain in touch with clinical work. But however this may be, we only refer to it here as indicating an additional reason why the medical officer of health should accept certificates without attempting to revise the diagnosis, even where he may think that diagnosis to have been made in error.

(To be continued.)

ARMY MEDICAL SCHOOL, NETLEY.

TERMINATION OF THE SIXTY-NINTH SESSION.

THE sixty-ninth session of the Army Medical School was brought to a close on Thursday, January 31st, when the prizes were presented and an address was delivered by Mr. W. H. Russell, LL.D., in the presence of the staff of the Royal Victoria Hospital and a distinguished company.

Surgeon-Major-General C. H. Giraud, Principal Medical Officer, Netley, opened the proceedings, and referred with regret to the unavoidable absence of the Director-General, Sir William Mackinnon, K.C.B., and of Sir Joseph Fayrer, K.C.S.I. He called on Brigade-Surgeon-Lieutenant-Colonel J. L. Notter, Secretary to the Senate of the School, to read the results of the examination. Professor J. Lane Notter then read out the official lists, of which the following is a summary:—

British Medical Service.

List of Surgeons on Probation of the Medical Staff of the British Army who were successful at both the London and

Netley examinations. The prizes are awarded for marks gained in the special subjects taught at the Army Medical School.—The final positions of these gentlemen are determined by the marks gained in London added to those gained at Netley, and the combined numbers are accordingly shown in the list which follows :—

Jan. 31st, 1895.

	Combined marks.		Combined marks.
*Harrison, W. S....	5052	Staddon, H. E.	3983
Howell, H. A. L.	4931	Whitehead, J. H.	3877
†Lawson, D.	4556	Murison, J. A....	3857
Steel, E. B....	4516	Tomlinson, L. P.	3746
Profeit, C. W.	4261	Perry, S. J. C. P.	3614
Kiddle, F.	4183	Heaton, A. F.	3562

* Gained the De Chaumont Prize in Hygiene and the Martin Memorial Medal.
† Gained the Montefiore Second Prize in Surgery.

Indian Medical Service.

List of Surgeons on Probation of the Indian Medical Service who were successful at both the London and Netley examinations.—The prizes are awarded for marks gained in the special subjects taught at the Army Medical School. The final positions of these gentlemen are determined by the marks gained in London added to those gained at Netley, and the combined numbers are accordingly shown in the list which follows :—

Jan. 31st, 1895.

	Combined marks.		Combined marks.
*Milne, C. J.	5635	Morgan, E. J....	4438
Stevens, A. F.	4371	Ward, A. E. F....	4384
†Beasley, C. H.	3845	Carr, W.	4313
Watling, F. H....	4768	Hamilton, J. A.	4252
‡Evans, S.	4621	McDonald, J. H.	3945
McMillan, J. D.	4534	Wall, F.	3922
Gwyther, A.	4506	Matthew, C. M.	3758

* Gained the Herbert Prize of £20, the Montefiore Medal and prize of 20 guineas, and the Maclean Prize for Clinical and Ward Work.
† Gained the Parkes Memorial Medal.
‡ Gained the Pathology Prize presented by Sir W. Mackinnon, K.C.B.

Dr. Russell afterwards distributed the prizes, and at the conclusion of the interesting ceremony he delivered a very excellent address, full of incidents of the Crimean War. He said he could honestly say that he was not accustomed to addressing public gatherings, and when the request was sent to him to present the prizes on that occasion, he did not see any special fitness in asking him to perform a ceremony which had been discharged by so many eminent men in that hall—except one, perhaps, and that was that it had been his fortune, good or bad he knew not, to see more of the work of medical officers in the field than perhaps any of his predecessors, no matter who they might be. He had had to follow armies in no fewer than nine campaigns, and following an army was about the most painful duty that could fall to any man. The Crown Prince of Germany observed after the great action outside Paris, when he noticed the surgeons attending to the wounded, "God help those poor fellows." He (the speaker) thought the Prince was referring to the wounded, but it transpired that he was speaking of the surgeons, who had commenced their work after the soldiers had done theirs. He was very much struck with the remark. The surgeons had been through a long and laborious march, and on that particular day they had covered a distance of nearly fourteen miles. It frequently happened, except in the case of standing camps, that the surgeons had to commence their work when the soldiers' work was over, and it was beyond all doubt the most trying and painful duty that any man could perform—at least, it used to be so, when, without proper apparatus and assistance, the surgeons were left to manage a large number of wounded people on the field of battle. Notwithstanding what the surgeons were sometimes called upon to do, and the very little consideration paid to them, he had never known an instance in any army in which a medical officer had deserted his post or refused to go on with his work. More than that, until late years he had never known an instance in which any general ever mentioned the name of a medical officer in a despatch. It was unknown in the English army. The Principal Medical Officer forwarded his observations to the General-in-Chief, and the General-in-Chief sent them as an appendix to his report. The only exception which he could remember was the case of an assistant-surgeon at the battle of Inkerman, who rallied a few men when the Guards were broken and the Duke of Cambridge was in danger of being taken, and thus saved the latter's life and the colours of the Guards. It was well that his name should be known—it was that of Assistant-Surgeon Wilson. His name was mentioned in Lord Raglan's despatch, in which it was stated that the Duke of Cambridge recommended him to notice for his gallant conduct. He hoped now that military appellations had been accorded to the medical officers of the army they would be thought worthy of mention with the combatant officers, whose work they had been trying to improve upon. It was a very desirable thing, and he hoped it would be recognised. He thought that a surgeon who rendered conspicuous service was fully entitled to every rank and honour which they could confer upon him. There were surgeons who had spent their lives for their country's benefit who had gone down without comparatively any reward or recognition, but he believed there was a good time coming. There were those who desired to see a special "order" instituted for medical officers, but he considered this to be unnecessary and undesirable, as all the orders, both military and civil, were open to medical men. The names of the professors of the school were a guarantee of the excellence of the instruction imparted to the surgeons-on-probation. There was a glorious career open to them. He considered there was nothing more ennobling than to fight in the cause of their country the most terrible enemies of mankind. Pope had said that the proper study of mankind was man, and surely the proper study for a medical practitioner was man, and in the Army Medical School they were taught how best to study the different diseases and their remedies. In 1854 he first made the acquaintance of two gentlemen whose names they knew and honoured, and he made their acquaintance not on the field of battle exactly, but certainly on the field of bloodshed, on the plateau before Sebastopol. He meant Sir Thomas Longmore and Sir William Mackinnon. It might be new to them to know that Sir William Mackinnon at one time wielded the claymore. He was seized with military ardour when he was assistant-surgeon, he believed, to the 93rd, and he received an ensigncy. Immediately after the defeat of the Russian cavalry at Balaclava by the "Thin Red Line," Sir Colin Campbell approached Sir William Mackinnon and said, "I think you would be more deadly with the lancet than the sword." Mackinnon, not finding any chance of more "Thin Red Line" work, went back to the profession of which he was now the chief and honoured ornament. He hoped Sir William Mackinnon would not be angry with him for telling the story. He only regretted he was not present to hear it. He need not say a word about Alexander, Muir, Ross, Tyse, Fraser, and a long roll of medical officers in the Crimea who were crushed under the weight of obloquy for what they could not help. They could not make bricks without straw, and these men were called upon to do what no man could do—to save the lives of those who were perishing from hunger, cold, want of medicine, clothing, and everything necessary to keep men alive; but they struggled on most nobly, and there was not a single instance of any neglect to be recorded on the part of any medical officer in the Crimea. He should not say much to them about their duties. He believed they knew them better than he could tell them, and, judging from the work of their predecessors, all he should say was, "Do as well as they did." When Dr. Andrew Smith was ordered to prepare for the Crimean expedition an adequate medical staff and stores, he replied that neither he nor his officers knew what would be necessary for such a campaign, and on referring to the medical memoranda at the War Office, he found nothing but a list of a few officers who served in the Peninsular War. As to any records, with the exception of Sir John McGregor's notes he had nothing to guide him with regard to his arduous duties. Now all was changed. We live in better times, when the Medical Department is responsible for all arrangement. Over 18,000 men died in the Crimea apart from those killed in battle, and of that number 1700 died from wounds and 17,000 from diseases. That showed the work the medical men had to do, and the work they could not do as well. When Sidney Herbert established the Royal Victoria Hospital after the Crimean War, he had to create a military school to give them the first idea how to deal with an army, not only in war, but in peace. He regretted the absence of Sir Joseph Fayrer, whose name was associated with the siege of Lucknow, as he would have been able to say a great deal more than he could. He had received a letter from Sir Thomas Longmore, who regretted that the state of his health would not permit of his presence that day. Sir Thomas Longmore begged to bear his testimony to the substantial service rendered to the Army Medical School by Sir Joseph Fayrer, who had always earnestly endeavoured to promote its welfare

in every direction. By his ceasing to be a member of the Senate, the school had sustained a serious loss. He had been present at most of the prize distributions, and often came down from London at great inconvenience to himself in order to be in attendance. The extent of his services to the school was beyond valuation and known but to few. Of those present at the inauguration of the school by Sidney Herbert in 1860, he (Sir Thomas Longmore) was the sole survivor. He was deeply impressed with the importance of the school, and should feel ungrateful if he did not make an acknowledgment of the debt that he and all interested in the school owed to Sir Joseph Fayrer. Dr. Russell then proceeded to say he entertained the greatest admiration for the services rendered by army surgeons, and if any of them liked to see an affecting memorial to their predecessors, when they visited Constantinople, let them go across to Scutari, where they would see row after row of monuments erected to the memory of surgeons who fell nobly on the field of battle. He was very thankful to them for the kind way they had listened to him, and he wished them every success in their future careers.

Surgeon-General Maclean also briefly addressed the young officers. He asked them to remember that although they belonged in name to two services, yet he hoped that they would regard themselves as one body; they had been messmates for four months, and he hoped no petty service prejudices or differences would ever come between them. They should be one body in thought, for they served one Royal Mistress. He said the services Dr. Russell rendered to his country in the Crimean campaign would never be forgotten. He wished the young officers a successful, happy, honourable, and useful career.

The Chairman then thanked Dr. Russell for presenting the prizes, and the proceedings terminated.

ARGON.

A MEETING of the Royal Society was held in the theatre of the London University on Thursday, Jan. 31st, to discuss a paper on "Argon, a New Constituent of the Atmosphere," by Lord Rayleigh, secretary of the Royal Society, and Professor William Ramsay, F.R.S. Lord Kelvin, D.C.L., LL.D., presided.

Professor RAMSAY, who communicated the paper, speaking with reference to the density of nitrogen, said that it has already been shown that nitrogen extracted from chemical compounds is about $\frac{1}{2}$ per cent. lighter than atmospheric nitrogen. He detailed various experiments that have been made which show that nitrogen prepared from magnesium nitride, obtained by passing "atmospheric" nitrogen over red-hot magnesium, has the density of "chemical" nitrogen, and that also ammonium chloride prepared from magnesium nitride contains practically the same percentage of chlorine as pure ammonium chloride. It may therefore be concluded that red-hot magnesium withdraws from "atmospheric nitrogen" no substance other than nitrogen capable of forming a basic compound with hydrogen. Professor Ramsay next dealt with the reasons for suspecting a hitherto undiscovered constituent in air, remarking that the work of Cavendish on the composition of the air in a great measure anticipated the present discovery when, in a paper published in the Philosophical Transactions of 1788, he expressed doubt as to whether phlogisticated air was the simple body it was thought to be, and went on to say, "If there is any part of the phlogisticated air of our atmosphere which differs from the rest and cannot be reduced to nitrous acid, we may safely conclude that it is not more than $\frac{1}{120}$ part of the whole." This residue, said Professor Ramsay, it is not improbable contained the new gas called argon. To prepare argon on a large scale air is freed from oxygen by means of red-hot copper. The residue is then passed over red-hot copper in order to remove all traces of oxygen; the issuing gas is then dried by passage over soda-lime and phosphorous pentoxide. It then enters a combustion-tube packed tightly with magnesium turnings, and heated to redness. Having collected the residue from 100 or 150 litres of atmospheric nitrogen, which may amount to 4 or 5 litres, it is transferred to a small gas-holder connected with an apparatus whereby, by means of a species of a self-acting Sprengel's pump, the gas is caused to circulate through a tube half filled with copper and half with copper oxide; it then traverses a tube half filled with soda-lime and half with phosphorous pentoxide; it then passes a reservoir of about 300 c.c. capacity, from which, by raising a mercury reservoir, it can be expelled into a small gas-holder. Next it passes through a tube containing magnesium turnings heated to bright redness. The gas is thus freed from any possible contamination with oxygen, hydrogen, or hydrocarbons, and nitrogen is gradually absorbed. As the amount of gas in the tubes and reservoir diminishes in volume it draws fresh supplies from the gas-holder, and, finally, the circulating system is full of argon in a pure state. At present all attempts to induce argon to combine have proved abortive. The presence of argon in the atmosphere, however, is proved on many lines, and the probable nature of the gas, or mixture of gases, remains to be discussed. From Avogadro's law the density of a gas is half its molecular weight, and the density of argon being approximately 20, its molecular weight must be 40. Some interesting remarks with reference to the place of argon in Mendeleef's table concluded Lord Rayleigh and Professor Ramsay's brilliant paper.

Professor CROOKES, F.R.S., then read a paper on the Spectra of Argon, and Professor RAMSAY communicated a paper by Dr. K. Olszewski on the Liquefaction and Solidification of Argon.

Professor ARMSTRONG (President of the Chemical Society) said everyone would gladly join in the chorus of approbation which had been started by Mr. Crookes. On behalf of the chemist he wished to say that he felt especially indebted on this occasion to Lord Rayleigh and Professor Ramsay, not only on account of the extreme importance of the information they had given, but more particularly on account of the example they had set. The case for the existence of the new constituent was undoubtedly a very strong one, but it had not been so logically brought forward as it might have been. However, it was quite clear that there was a very sound body of evidence that made it certain that there was in the atmosphere a constituent that had long been overlooked. The paper would no doubt meet with considerable criticism throughout the world, but there was not the least doubt that their would soon be abundant confirmation of the correctness of the discovery. Apart from the facts brought forward, there was what he might call a widely speculative portion of the subject, and in dealing with the probable nature of this new element the extraordinary properties possessed by this gas had not been sufficiently taken into account. Nitrogen was a very inert form of matter, and its nature derived from its study in the atmosphere is of an altogether wrong character. If anything at all could be judged from the properties which argon is known to possess it is like nitrogen, but more so. It was quite likely that the two atoms existed so firmly connected with each other as to make it impossible for them to interfere or to take notice of anything outside them. There was a good deal to justify a view of this kind. Spectroscopic evidence did not appear to justify the conclusion that argon was a mixture of two gases. Argon had fewer affinities for nitrogen than any other substance, and there was a difficulty in placing it in Mendeleef's table.

Professor RÜCKER (President of the Physical Society) said it was extremely important to distinguish between the various points of doubt and the certain fact that beyond question a new constituent of the atmosphere had been discovered. It seemed to him that one of the most interesting results arrived at from a physical point of view was the fact that the gas was monatomic. It was necessary that the atom of argon should be considered spherical in order that its specific ratio of heat might be obtained. Whatever the difficulty might be of placing it in the periodic table, Mendeleef's law was only empirical, and did not stand on the same footing as the great mechanical generalisations which were the foundation of science.

Professor ROBERTS AUSTEN referred to the possible bearing of argon on the Bessemer steel process.

Lord RAYLEIGH said that the difficulties connected with the present investigation were extremely great. Every experiment took about ten days or a fortnight to complete, and consequently no time was left to determine by experiment many doubtful points it was desirable to clear up. This specially applied to the question of densities, and consequently they were not so satisfactorily elaborated as one could wish. The molecule behaved as a whole as if it were monatomic. Mercury gas was the only other substance which presented a similar property.

Lord KELVIN congratulated the authors of the paper on their brilliant success, and the discussion terminated.

THE CASE OF SHENTON *v.* SMITH: THE RESULT OF ANOTHER PETITION OF RIGHT.

ON Saturday last the Judicial Committee of the Privy Council gave judgment in the appeal of the Government of Western Australia (in the person of their Colonial Secretary) from a decision of the Supreme Court of that colony upholding a verdict and judgment for £200 obtained by Mr. Henry Lionel Smith, M.R.C.P. Irel., the respondent in the present appeal, for unreasonable dismissal from the public service. In 1887 Mr. Smith received the post of acting medical officer at Albany. In the following year events happened during the transfer of the Albany Colonial Hospital to new buildings which resulted in the death of a patient suffering from enteric fever, the immediate cause of death being, as was alleged, exposure to cold. For this death a coroner's jury of three persons attached blame to Mr. Smith, and the Government dismissed him, an order being passed on July 9th, 1888, informing him that his tenure would cease at the end of the year. Mr. Smith proved that he was not responsible for the mishap, and that the act of the workmen which led to the exposure of the patient to cold was done in his absence and without his authority, and the Government allowed an appeal to the Secretary of State, who upheld the Governor's decision. Thereupon Mr. Smith entered a petition of right, with the Colonial Secretary as defendant. In this trial the jury disagreed, but in a subsequent trial they found for the plaintiff, with £200 damages for wrongful dismissal. On the further consideration of whether the plaintiff had or had not been wrongfully dismissed the court were divided, so that the original verdict remained undisturbed. In an appeal from this before the Judicial Committee of the Privy Council on Feb. 2nd, 1895, the court ordered that judgment be entered for the appellant (the Government of West Australia), but without costs in regard to the litigation in Australia. It would appear, therefore, that colonial civil servants holding acting appointments can be dismissed at any moment by the Government without any reason being assigned, and that the regulations are of no value as protection to them; for Lord Ripon, in his reply to a memorial of a Parliamentary Committee, has said that the regulations do not apply to anyone holding acting commissions, and that the Governor can terminate all such appointments without notice and without assigning any cause. In this case Mr. Smith finds himself lying under the stigma of being a constructive murderer, and is in addition practically ruined; all this misery arising from the ill-considered judgment of a coroner's jury of three men probably entirely ignorant of medicine and incapable of forming a right judgment upon scientific subjects. We await with curiosity and a painful sense of anxiety the steps that it may please Imperial Parliament — regardless of politics—to take to recompense Mr. Smith for wasting eight years of his life, and allowing him to be pursued with all the legal machinery at the disposal of a Government with a view to fixing indelibly upon him the stain of ill-behaviour of which all who know the facts recognise that he was entirely guiltless.

A FRESH OUTBREAK OF SMALL-POX IN TOXTETH PARK, LIVERPOOL.

AT the last meeting of the Health Committee Dr. Hope, the medical officer of health, alluding to the charge of neglecting to notify a case of small-pox, stated that owing to the deception practised the young man was going about the city for a fortnight spreading the infection everywhere. This case afforded an illustration of the difficulty they had in tracing such cases and carrying out their duties under the Act. He (Dr. Hope) had the case reported to him by means of an anonymous note. The guardians of the township of Toxteth Park recently requested the Health Committee to inform their board whether there were any conditions which may contribute to the prevalence of small-pox and other diseases in the district now affected by small-pox. In consequence of this request Dr. Hope was asked to report and sent a most carefully prepared and elaborate report, of which the following are extracts:—

"The health committee have approved at great cost of precautionary measures of a stringent character, as Liverpool is particularly liable to the importation of sickness; and it is by no means infrequent that small-pox is introduced either overland or by sea. Up till comparatively recent years several matters relating to the prevention of disease were dealt with by the Poor-law authorities, but with one notable exception the whole of these matters now fall within the province of the sanitary authorities. The exception in question is vaccination, which constitutes one extremely important factor, perhaps the most important, in the prevention of small-pox. The present outbreak in the Toxteth district, so far as could be ascertained, had its origin in the introduction of the disease by tramps from the Yorkshire district. Infected persons were found by officers of the Health Committee in the more squalid parts of the district and it was apparent that there was an undue proportion of unvaccinated persons in that district. The medical officer of health consequently called the attention of the vaccination officer on Sept. 19th to the gravity of the circumstance and the guardians caused the district to be placarded with vaccination notices and provided some additional assistance temporarily for the visiting officer.

"The guardians have no doubt experienced difficulty in discovering and securing the vaccination of many of the young children of the shifting population of the lower districts, but their efforts have not been rewarded with the same measures which have attended those, for example, of the select vestry of the parish of Liverpool. Thus, according to the last published annual returns of the Local Government Board the number of children born during the two years referred to and not finally accounted for as regards vaccination are about three times and a half as numerous in the Toxteth Park district as they are in the parish of Liverpool. The difficulty encountered in discovering the unvaccinated children is not insuperable, since the district sanitary inspector of the Health Committee, who was instructed to report the unvaccinated he came across, reported over 230 in a few streets, all of whom were duly referred to the vaccination officer. A few of these may have been below the limit at which vaccination is compulsory by law and a few may have been adults, but that, in the face of the grave danger, is no ground for withholding the protection which vaccination affords. Even in some of those cases to which attention was called a somewhat inexplicable delay arose in effecting vaccination, and in two instances the children, after the lapse of thirteen days and seven days respectively after attention had been called to them, were attacked with small-pox and removed to the hospital.

"The class of people who suffer most by small-pox are the lowest and most indifferent of the population. The exhibition of placards upon the street corners is but of small avail in securing the vaccination of people such as these. Many of them probably cannot read. The only effectual course to pursue in order to discover the unvaccinated is the employment of an adequate staff of trained and intelligent people who will be able by persuasive means to secure, not only attention to primary vaccination, but will be able to advise successfully the revaccination at the appropriate age.

"The incidence of small-pox and its confinement to the Toxteth district are remarkable. Out of a total of 236 cases dealt with from Sept. 1st up to Jan. 20th, no less than 192 occurred in the Toxteth district; but the danger was by no means confined to that area, for 11 of the 44 cases which occurred in other parts of the city were proved to be directly infected by intercourse with Toxteth cases, and it is not improbable that they in turn infected others. The outbreak on the *Clarence* was traceable to a similar source."

Dr. Hope proceeds to deal with the question of vaccination, and concludes his report thus: "Relative mortality amongst vaccinated and unvaccinated patients in the Toxteth Park district from Sept. 1st, 1894, to Jan. 20th, 1895: Number of vaccinated patients, 151; died, 8; percentage, 5·3. Number of unvaccinated patients, 41; died, 10; percentage, 24·3."

ROYAL INSTITUTION.—At the general monthly meeting of the Members of the Royal Institution, held on the 4th inst., Sir James Crichton-Browne presiding, the special thanks of the members were returned to Professor Dewar for his donation of the Rumford Prize money to the fund for the promotion of experimental research at low temperatures.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

THE ordinary quarterly comitia of the College was held on Jan. 31st, Sir J. Russell Reynolds, President, in the chair. At the opening of the proceedings the President reported to the College that Dr. Allchin and he had attended the deputation to the Prime Minister to urge on the Government to take steps towards the appointment of a Statutory Commission, as proposed by the Gresham University Commissioners; and that Dr. Allchin had, at his request, addressed the Prime Minister on behalf of the College.

Drs. T. V. Dickinson, J. Fawcett, L. Humphry, Mr. E. G. G. Little, Drs. J. P. Parkinson, A. Ransome, Whitley Bland Stokes, S. R. Wells, and L. Wilde were admitted Members of the College.

Licences were granted to 139 candidates who had passed the recent examination, and the diploma in public health (granted conjointly with the Royal College of Surgeons) to thirteen candidates at the examination in that subject.

Communications were received—(1) from the Secretary to the Royal College of Surgeons of England reporting the proceedings of the Council of that body; (2) from Mr. W. H. Baillie, presenting to the College a portrait by Hoppner of Dr. Matthew Baillie, and one of Dr. Edward Jenner by Sir Thomas Lawrence; and (3) from Sir R. Quain, presenting to the College a silver cup for the use of the Fellows' Club.

Thanks were voted to Mr. Baillie and Sir R. Quain for their gifts.

The President presented to the College on behalf of Dr. Theodore Williams a pencil drawing of Dr. Richard Mead by his contemporary, Dr. Stukeley, and in doing so gave some interesting details concerning Drs. Mead and Stukeley.

The thanks of the College were accorded to Dr. C. T. Williams for his gift.

On the motion of the Senior Censor a vote of congratulation to the President on the honours conferred upon him by Her Majesty the Queen was heartily accorded by the Fellows, and acknowledged by Sir Russell Reynolds in appropriate terms.

The following Fellows were, on the nomination of the Council, elected to fill vacancies on the Council—viz., Dr. Hensley, Dr. Gervis, Dr. Ord, and Dr. Cavafy.

It was resolved, on the motion of the President, seconded by Dr. C. T. Williams, that during the annual meeting of the British Medical Association in London in August next a conversazione be given in the College, and that as many members of the Association be invited as space will permit. It was further decided to leave the arrangements in the hands of a committee to be nominated by the President.

The Registrar moved, and the Treasurer seconded, and it was resolved for the first time to make the alterations in By-laws clxii. and clxiii. relating to the fees payable by Fellows and Members agreed on by the College at a previous meeting.

The report of the Weber Prize Committee was received, on the motion of Dr. J. E. Pollock, the chairman of that committee. The report enumerated the regulations for the triennial award of a prize of 150 guineas, to be called the Weber-Parkes Prize, "to the writer of the best essay upon some subject connected with the etiology, prevention, pathology, or treatment of Tuberculosis, especially with reference to pulmonary consumption in man," the prize to be accompanied by a bronze medal specially designed, a similar medal being given to the next in order of merit. It further provided for the nomination of an adjudication committee, whose duty it would be to select the subject upon which they will adjudicate. The competition was proposed to be open to the world, and a provision was made for the bestowal of the award for original work produced within the stated period in the event of no essay being sent in of sufficient merit to receive it. The reception of the report having been carried it was further resolved, on the motion of the treasurer, to refer it back to the committee before its final adoption, in order to make some provision for the remuneration of the members of the proposed adjudication committee.

The report of the representative of the College on the General Medical Council (Sir Dyce Duckworth) was read, and a vote of thanks accorded to him for his services.

Reports were also received from the Finance Committee and from the Committee of Management, and a return of the results of the examinations of the past year from the examiners.

THE MEDICAL DEFENCE UNION, LIMITED.

AN ordinary general meeting of the Medical Defence Union was held at the rooms of the Royal Medical and Chirurgical Society of London on Wednesday last to receive the annual report of the council and the statement of accounts for the past year and to transact other business. The President of the Union, Mr. Victor Horsley, presided.

In moving the adoption of the Report, Mr. Victor Horsley desired to congratulate the Union on having, in spite of various obstacles, passed through the most successful year of its existence. In the first place, as regards membership the increase—namely, 731—is greater by 200 than the increase of any previous year. The Guarantee Fund has during the year increased by nearly £1000, and now amounts to over £5000. During the year every liability has been discharged out of the income and the most rigid economy observed, an economy which the working of the Finance Committee has greatly contributed to. The result is that this year not only have the heavy liabilities of the previous year been cleared off, but a handsome surplus remains. He particularly desired to draw attention to the fact that during 1894, in addition to the charges for the year, a legal account of Messrs. Johnson and Co., presented for work done in 1893 and amounting to over £350, was paid. This does not appear in the balance sheet for 1894 because the liability which was stated in the balance sheet for 1893 had been thus got rid of, the balance sheet of course only stating what liabilities remained on Dec. 31st, 1894. The work of the Union during the past year has been singularly successful. In the first place, as regards the defence of members the existence of the Union of recent years has caused a diminution in the cases of blackmailing, and this year the prompt action of the Union has so crushed the assailants in every case that not in one instance during 1894 was there any necessity for going into court. Much friction has arisen with public bodies in regard to the Infectious Disease (Notification) Act, and actions for damages have been made against members of the profession arising out of their certificates. The Union has won every case of this kind. As regards the prosecution of unqualified persons, for the first time a bonesetter has, in an action by the Union, been successfully prosecuted, and in all the other prosecutions of quacks by the Union penalties have been inflicted and costs recovered. The development of the Union has been so rapid and the increase in its work so great that it has been found necessary to revise the articles of association, and a committee is now sitting and has already agreed upon certain fundamental principles of revision. A plan, which it is hoped will receive both the support of the Union and the British Medical Association, has been suggested whereby the Defence Union should be in a measure affiliated to the Association, and, without losing its present successful independent power of working for the defence of its members, it should also operate as a department of the Association. For this purpose it is proposed that the Association should grant a subsidy to the Medical Defence Union of a considerable sum—say of £1000 or £1500 a year—under the condition that it is to be expended in the prosecution of quacks. Further, that to properly provide for the administration of the same a certain number of members (say six) of the Council of the Association should be placed on the council of the Union, and that the latter should be known as the British Medical Defence Union. This plan seemed to him to be extremely practical, because, although the Medical Defence Union has all the experience and machinery for the prosecution of unqualified persons and although it has ample funds for the defence of its individual members, it naturally has not means sufficient to deal with the evil of quackery as completely as could be wished.

Dr. Bridgwater, in seconding the motion, congratulated the members of the Union on the admirable report which had been presented. He was glad to see that the name of the Union was becoming a power in the country, and it was gratifying to know that they might now consider themselves as a "good going concern." A good deal of their financial success was due to the honest method of "paying

your debts as they are contracted," and he thought that members who had not paid up their subscriptions might take the hint from this that their funds were needed.

The report was carried.

The following retiring members of the council—Dr. Danford Thomas (London), Mr. Hall-Wright (Birmingham), and Mr. Horder (Cardiff)—were re-elected.

In reply to a member, Mr. Horsley said that he quite agreed that there should be one paid secretary only, who should attend solely to the business of the Union. The matter was under consideration.

The usual courtesies to the chairman were tendered by Dr. Jones, who was cordially supported by the meeting.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In thirty-three of the largest English towns 6366 births and 4000 deaths were registered during the week ending Feb. 2nd. The annual rate of mortality in these towns, which had been 21·7 and 18·7 per 1000 in the preceding two weeks, rose again last week to 19·7. In London the rate was 19·0 per 1000, while it averaged 20·2 in the thirty-two provincial towns. The lowest rates in these towns were 11·8 in Croydon, 14·6 in Portsmouth, 16·0 in Birmingham, 16·3 in West Ham, and 16·8 in Huddersfield; the highest rates were 23·5 in Manchester, 24·4 in Brighton, 25·3 in Salford, 26·8 in Preston, and 27·9 in Liverpool. The 4000 deaths included 299 which were referred to the principal zymotic diseases, against 338 and 323 in the preceding two weeks; of these, 76 resulted from whooping-cough, 70 from diphtheria, 48 from measles, 45 from diarrhœa, 33 from "fever" (principally enteric), 25 from scarlet fever, and 2 from small-pox. No fatal case of any of these diseases occurred last week in Leicester or in Halifax; in the other towns they caused the lowest death-rates in Cardiff, Bristol, and Bradford, and the highest rates in Brighton, Preston, Wolverhampton, Bolton, and Salford. The greatest mortality from measles occurred in Bolton, Preston, and Gateshead; from scarlet fever in Salford; and from whooping-cough in Brighton, Plymouth, Salford, Huddersfield, and Swansea. The 70 deaths from diphtheria included 45 in London, 3 in Birmingham, 3 in Manchester, and 3 in Blackburn. Two fatal cases of small-pox were registered in London, but not one in any other of the thirty-three towns. There were 51 cases of small-pox under treatment in the Metropolitan Asylum Hospitals and in the Highgate Small-pox Hospital on Saturday last, the 2nd inst., against numbers increasing from 15 to 35 at the end of the preceding six weeks; 21 new cases were admitted during the week, against 8, 6, and 8 in the preceding three weeks. The number of scarlet fever patients in the Metropolitan Asylum Hospitals and in the London Fever Hospital at the end of the week was 1653, against 1713, 1653, and 1652 on the three preceding Saturdays; 160 new cases were admitted during the week, against 130, 154, and 186 in the preceding three weeks. The deaths referred to diseases of the respiratory organs in London, which had been 399 and 324 in the preceding two weeks, rose again to 377 last week, but were 126 below the corrected average. The causes of 77, or 1·9 per cent., of the deaths in the thirty-three towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Portsmouth, Bristol, Leeds, Newcastle-upon-Tyne, and in nine other smaller towns; the largest proportions of uncertified deaths were registered in Birmingham, Preston, Halifax, and Hull.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 28·3 and 24·2 per 1000 in the preceding two weeks, further declined to 23·9 during the week ending Feb. 2nd, but was 4·2 per 1000 above the mean rate during the same period in the thirty-three large English towns. The rates in the eight Scotch towns ranged from 13·5 in Leith and 15·3 in Paisley to 25·7 in Perth and 26·5 in Glasgow. The 690 deaths in these towns included 37 which were referred to measles, 25 to whooping-cough, 12 to scarlet fever, 6 to diarrhœa, 6 to "fever," 3 to diphtheria, and not one to small-pox. In all, 89 deaths resulted from these principal zymotic diseases, against 100 and 92 in the preceding two weeks. These 89 deaths were equal to an annual rate of 3·1 per 1000, which was 1·6 above the mean rate last week from the same diseases in the thirty-three large English towns. The fatal cases of measles, which had declined from 58 to 42 in the preceding three weeks, further further fell to 37 last week, of which 15 occurred in Glasgow, 10 in Edinburgh, and 9 in Aberdeen. The 25 deaths from whooping-cough exceeded by 7 the number in the preceding week, and included 21 in Glasgow. The fatal cases of scarlet fever, which had increased from 6 to 9 in the preceding three weeks, further rose to 12 last week, of which 7 occurred in Glasgow, 2 in Edinburgh, and 2 in Paisley. The deaths referred to different forms of "fever," which had been 5 in each of the preceding two weeks, were 6 last week, and included 3 in Glasgow. The 3 fatal cases of diphtheria showed a further decline from the numbers recorded in recent weeks, and included 2 in Glasgow. The deaths referred to diseases of the respiratory organs in these towns, which had been 235 and 186 in the preceding two weeks, further declined to 163 last week, but exceeded by 40 the number in the corresponding period of last year. The causes of 54, or nearly 8 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 40·9 and 31·0 per 1000 in the preceding two weeks, rose again to 31·9 during the week ending Feb. 2nd. During the past five weeks of the current quarter the death-rate in the city has averaged 32·6 per 1000, against 18·7 in London and 23·7 in Edinburgh. The 214 deaths registered in Dublin during the week under notice showed an increase of 6 upon the number in the preceding week, and included 16 which were referred to the principal zymotic diseases, against 23 and 20 in the preceding two weeks; of these, 5 resulted from small-pox, 4 from "fever" (principally enteric), 3 from whooping-cough, 3 from diarrhœa, 1 from scarlet fever, and not one either from measles or diphtheria. These 16 deaths were equal to an annual rate of 2·4 per 1000, the zymotic death-rate during the same period being 1·4 in London and 2·5 in Edinburgh. The fatal cases of small-pox, which had been 11, 10, and 7 in the preceding three weeks, further declined to 5 last week. The deaths referred to different forms of "fever," which had increased from 2 to 5 in the preceding four weeks, were 4 last week. The mortality from whooping-cough showed a slight increase upon that recorded in the preceding week, while that from scarlet fever showed a decline. The 214 deaths in Dublin last week included 31 of infants under one year of age and 59 of persons aged upwards of sixty years; the deaths of infants showed a slight increase, while those of elderly persons showed a further decline from recent weekly numbers. Five inquest cases and 7 deaths from violence were registered; and 84, or more than a third, of the deaths occurred in public institutions. The causes of 15, or 7 per cent., of the deaths in the city last week were not certified.

THE SERVICES.

MOVEMENTS OF THE MEDICAL STAFF.

SURGEON-CAPTAINS Baylor and Riordan have embarked in the *Jumna* for duty in Malta, and the following officers have embarked in the *Britannia* for a tour of service in India:—Surgeon-Lieutenant-Colonel Saunders, Surgeon-Captain Kelly, and Surgeon-Lieutenants Bray, Hinge, and Erskine. Surgeon-Major Clements has embarked for service in Sierra Leone. The following Surgeons on probation, who have just passed out of Netley, have proceeded to Aldershot to undergo a course of instruction at the depôt, Medical Staff Corps: W. S. Harrison, H. Howell, D. Lawson, E. Steel, C. Profeit, F. Kiddle, H. Staddon, J. Whitehead, J. Morison, L. Tomlinson, S. J. Perry, and A. Heaton.

ARMY MEDICAL STAFF.

Surgeon-Lieutenant-Colonel Barnard William Wellings retires on retired pay.

INDIA AND THE INDIAN MEDICAL SERVICES.

Surgeon-Lieutenants E. W. Slayter and T. P. Jones have

on arrival from England been posted to general duty, Poona district. Surgeon-Captain J. L. T. Jones and Herbert Herbert have respectively delivered over and received charge of the Kaira Prison. Surgeon-Major R. W. S. Lyons, M.D., has delivered over the charge of the Ratnagiri Prison. Brigade-Surgeon-Lieutenant-Colonel J. C. G. Carmichael, M.D., I.M.S., Officiating Principal Medical Officer, Presidency district, and Surgeon-Major A. V. Lane, A.M.S., Aden, have been granted leave to England. Surgeon-Lieutenant J. A. Howell, I.M.S., Civil Surgeon, Karwar, retires from the service.

NAVAL MEDICAL SERVICE.

Staff-Surgeon Otway Peter Browne, B.A., M.B., has been placed on the Retired List of his rank.

VOLUNTEER CORPS.

Rifle: 2nd Volunteer Battalion, the Northumberland Fusiliers: Surgeon-Major A. Wilson to be Surgeon-Lieutenant-Colonel. 2nd Volunteer Battalion, the Princess of Wales's Own (Yorkshire Regiment): Surgeon-Major W. T. Colby, M.D. to be Surgeon-Lieutenant-Colonel. 4th (Donside Highland) Volunteer Battalion, the Gordon Highlanders: Samuel George Davidson, M.B., to be Surgeon-Lieutenant.

THE WAR BETWEEN CHINA AND JAPAN.

Colonel Maurice, in an article on this subject (to which we briefly alluded last week) in the last number of the *United Service Magazine*, warns us that with some half a million of men round Pekin whose habits are filthy and who are without discipline or organisation, or any regard for ordinary sanitary precautions, pestilence in some form or other is likely to follow on the accession of warm weather, when the melting of the snow, befouled by vast numbers of men and animals, takes place, and he asks how soon afterwards actual sickness may be expected to appear. It is, of course, quite probable that some outbreak of epidemic disease may occur under the circumstances and conditions he depicts, but its exact nature must be a matter of conjecture in the meantime. The conditions described may be said to represent a manufactory for disease of some sort, or rather they present a fitting soil for the rapid growth and development of any disease-cause that may be present or introduced. With a recent history of plague in China and Hong-Kong the liability to epidemic cholera, or to outbreaks of typhoid fever or other diseases, it is not easy to say what, may arise; and we cannot determine the interval that will ensue before a disease becomes widespread and epidemic unless we know the particular form of sickness with which we have to deal. But assuming that it is one capable of being spread by water, from about ten to thirty days would elapse in the case of typhoid fever, for example, whereas the interval would probably be much less than the first-named period in the case of cholera. As regards typhoid fever, there is a very instructive epidemic on record in connexion with Plymouth, Pennsylvania, a town of 8000 inhabitants. The dejecta of a typhoid fever patient were, during part of the first three months of the year 1885, thrown out on the snow, under which the ground of a hill sloping towards the water-supply of the town was deeply frozen. On March 25th a sudden and great thaw occurred, and the water did not sink into the ground, but immediately ran off into the natural surface channels. On April 10th the epidemic began, which affected 1200 persons and caused 130 deaths. This may be said to approximately represent the conditions described by Colonel Maurice. The medical history of our last war in South Africa will also furnish some interesting data of a somewhat similar character *apropos* of wholesale water contamination.

THE NEW TROOP SERVICE SYSTEM.

Army medical officers who have made voyages to India in Her Majesty's troopers will be interested in knowing what is thought of the steamers employed under the present system. According to an apparently well-informed correspondent writing to a service contemporary the new system of transport seems to have advantages and disadvantages as compared with that of the old service of Her Majesty's Indian troopship which it has replaced. The passage to India is several days quicker, and the accommodation for officers and ladies, warrant officers, and married non-commissioned officers is much better in the present vessels, but the men are no better off, indeed, rather worse off, than they were, mainly owing, it is alleged, to the insufficient space afforded on the upper deck and on the troop decks. This renders the proper inspection of the troops and the maintenance of ventilation and cleanliness difficult.

THE LATE PLAGUE AT HONG-KONG AND THE SHROPSHIRE REGIMENT.

Although the Shropshire Light Infantry received great credit locally for the work they performed in Hong-Kong nine months ago, in connexion with the outbreak of plague at that station, we doubt whether their conduct on that occasion obtained all the credit it deserved elsewhere. The visitation was a severe one, and gave rise to a great panic and exodus among the native population, the name of the disease alone being sufficient to create great alarm. The officers and men of the regiment came forward in a very brave and unselfish manner, and constituted themselves into a sanitary service which did a lot of practical work of an essential kind with highly successful results. Members of the medical profession are best qualified perhaps to gauge the merit of labours of this sort.

THE COMPETITIVE EXAMINATION FOR THE ARMY MEDICAL STAFF.

We would call attention to the fact that the next examination of candidates for twelve commissions in Her Majesty's Army Medical Staff is to be held at the Examination Hall, Victoria Embankment, on the 15th inst. and following days.

THE NEW DRAINAGE WORKS AT ALDERSHOT.

The *Army and Navy Gazette* states that the War Office, after consultation with the local civil authorities, has obtained the sanction of the Treasury for a vote of £60,000 for the purpose of expediting the new drainage works at Aldershot. Let us hope that we may now hear of a new site being chosen for, and an altogether better sewage farm being provided for the camp than that now in use, which is universally recognised as unfit and unsuitable for the purpose. There have recently been some cases of typhoid fever among the officers stationed at Aldershot, the origin of which was variously attributed to defective barrack drainage or the nuisance caused by the sewage farm, but it is rumoured that some samples of drinking water have not afforded satisfactory results on analysis and examination. The health of the troops generally is, however, as far as we can at present learn, good.

An order that deserves a word of commendation has been issued by the General Officer commanding at Lucknow. Some of the British soldiers having dressed in khaki during the early morning, the attention of the officers in charge has been drawn to the necessity of soldiers being properly clothed. Khaki is only to be allowed between 9 A.M. and 5 P.M. unless otherwise ordered.

The appointment of Principal Medical Officer of all India, which post is about to be vacated by Surgeon-Major-General Bradshaw, will be conferred upon Surgeon-Colonel Gore, now serving in Bombay.

H.M.S. *Malabar* is expected to arrive at Portsmouth about Feb. 9th with nine patients for Netley.

We hear that a sum of £25 000 is to be expended on repairs at the Royal Victoria Hospital, Netley.

LITERARY INTELLIGENCE.—"The Royal Natural History," which we have perused from the beginning of its issue with the greatest interest and respect for the enterprise of those in charge of the production, having completed the series of its numbers devoted to the world's "Mammals," begins in this month's issue an interesting and well-illustrated account of the "Birds," past and present. Among the contributors are the editor—Mr. Lydekker, F.R.S.—Dr. Bowdler Sharpe, Mr. Macpherson, and Mr. Ogilvie Grant, and among the illustrators are Keulemans, Smit, Lodge, Specht, and Gambier Bolton. Messrs. Frederick Warne and Co., the publishers, announce that the nine parts, which comprise the above, will contain over 400 illustrations.—A new Elementary Text-book of Anatomy, by Mr. Henry E. Clark, editor of Wilson's "Student's Vade-Mecum," will very shortly be published by Messrs. Blackie and Son, Limited, Glasgow.—Messrs. Selwin Tait and Sons of New York have issued an edition of Dr. Norman Kerr's "Inebriety" for the United States.

Correspondence.

"Audi alteram partem."

DEFECTS OF VISION IN THE MERCANTILE MARINE AND RAILWAY SERVICES.

To the Editors of THE LANCET.

SIRS,—In this seafaring community the published statements have made a profound impression that such shocking accidents as that of the *Elbe*, with its appalling loss of life, can be traceable to the defective eyesight of mercantile marine officers and sailors on shipboard as the probable cause of many such disasters, and "quite possibly," in the opinion of to-day's *Times*, "the actual cause in the case of the *Elbe*." So the public has good ground for asking the pertinent question, Why has not the Board of Trade kept pace with science, and revised their medical regulations? Why is the eyesight of the shipmaster tested for the last time upon obtaining the certificate of that rank instead of continuous re-examinations at intervals rendered necessary by age deterioration, bearing in mind that his previous examinations were incomplete on points of vital, practical importance in the commander of a passenger ship? For the correct reply to these questions we must go to the root of the evil. It is an open secret that the Marine Department of the Board of Trade has no medical adviser, no professional head analogous to the Director-General of the Medical Departments of the Army and of the Royal Navy. The medical surveyors, who are also the medical inspectors of emigration at our ports, and the unorganised crowd of ship surgeons, all should be in touch with the Board of Trade through such a head of a health department of the most important mercantile marine in the world. Until this appointment is made there will be no security that the forthcoming revised regulations *re* vision tests will not share the fate of other sanitary requirements of the Board of Trade, and be either evaded or carried out perfunctorily, as illustrated in my paper upon the Medical Department of the Mercantile Marine, published in the recent volume of the Transactions of the Sanitary Institute (Congress at Liverpool, 1894).

I am, Sirs, yours faithfully,

C. H. LEET, F.R.C.S.

Norma-road, Waterloo, Liverpool, Feb. 2nd, 1895.

To the Editors of THE LANCET.

SIRS,—On reading the account of the deputation of medical men who waited upon Mr. Bryce at the offices of the Board of Trade yesterday afternoon in connexion with the eyesight of seamen and railway servants I notice that the latter gentleman is reported to have said that "the department had always shown due vigilance in the matter of the eyesight of seamen." In order to show that this vigilance is, to say the least, not sufficient, I shall mention the case of a man who called upon me professionally, but not on account of his eyes, on Dec. 18th, 1891. Observing that he had marked external strabismus of the left eye, I proceeded to examine the state of his vision, which was as follows:—R.V., $\frac{6}{6}$ (one letter wrong); no improvement by lenses. L.V., $\frac{6}{60}$; no improvement by lenses. The right cornea had a fair-sized nebula. The left cornea was obscured by numerous opacities. In other words, this man had less than one half the normal vision in his right eye, and only $\frac{1}{10}$th part in his left, with the probability of still further deterioration. This man was an able seaman, employed up to the time of my accidental examination on board a steamship conveying passengers to keep watch on deck, by night or by day, during its frequent journeys between ports on the North Sea. I considered it my duty to inform the officials of the company to which the ship belonged that my patient was unfit for such "look-out" work, and I had a letter of thanks telling me that more suitable employment had been provided for him.

Doubtless this company has taken precautions against a similar case occurring in future; but the Board of Trade and all shipping and railway companies should know that a medical man is the only suitable person for examining eyesight. He is the only person who could diagnose and treat cases of tobacco blindness, which to a certainty occur frequently in the mercantile marine. This and other diseases may seriously affect the vision at any time, and on this account an initial examination is quite insufficient. Periodical examinations should be made in the case of all responsible persons. In replying to the deputation, Mr. Bryce said it was a remarkable fact that few accidents had been traced to defective eyesight, either at land or sea. It is a remarkable fact, but one which gives additional significance to the belief that many accidents, both explained and unexplained, may have been due to defective eyesight. I am not aware of a single case where serious catastrophe has occurred in which the question of the eyesight of those charged with the "look-out" was either inquired into or an inquiry even suggested. Until the eyesight of all responsible persons is systematically and periodically examined by medical men it is entirely misleading to say that few accidents are caused by defective eyesight because few have been traced to that cause.

I am, Sirs, yours faithfully,

A. RUDOLF GALLOWAY, M.B., C.M., M.A.

Union-street, Aberdeen, Feb. 2nd, 1895.

"THE ABSENCE OF SUGAR FROM NORMAL URINE PROVED BY A NEW AND SIMPLE METHOD."

To the Editors of THE LANCET.

SIRS,—Sir George Johnson still persists. He must not therefore complain if I subject his letter, which appeared in THE LANCET of Jan. 26th, to the sharp criticism to which it is open.

Sir George Johnson remarks: "No physician, probably, has larger experience of the fermentation test than Sir William Roberts, who says, 'According to my experience urine containing 0·5 per cent., or two and a half grains to the ounce and under, yields no sign to the fermentation test.'" What are we to understand from this quotation, made use of without any qualification? It is quite meaningless if not intended to be associated with the implication that upon Sir William Roberts' authority the fermentation test will not reveal the presence of sugar in urine when existing below 0·5 per cent. As normal urine is only affirmed to contain much less than this, *ergo*, upon Sir William Roberts' dictum, put as Sir George Johnson has put it, normal urine cannot be shown by the fermentation test to contain sugar. Sir George Johnson omits to mention that what Sir William Roberts says refers distinctly to the application of the fermentation test in a direct manner to diabetic urine, whilst, as everyone knows, when used in connexion with normal urine it is applied to the extracted sugar. Sir George Johnson has here placed himself in this dilemma: either his perceptive power has been insufficient to enable him to properly grasp the situation, or, in his endeavour to score a point in argument, he has considered himself at liberty to neglect to give consideration to the misleading effects of putting an incomplete representation before your readers.

Next follows: "Dr. Pavy states that he got a negative result with this test [fermentation] applied to normal urine until he was led to neutralise the acid urine [in reality, I say nothing about the acid *urine;* I distinctly speak of the acid *product* from the urine] by carbonate of soda; he then found fermentation proceeded actively. Now, one effect of adding carbonate of soda to acid urine would be to set free carbonic acid, and it would be interesting to know whether Dr. Pavy was careful to ascertain that the carbonic acid which was given off from the urine at a 'suitable temperature' was not that which had been previously combined with the sodium." I take it Sir George Johnson cannot mean what he writes as intended to be read in earnest. He must be indulging in some kind of jest which does not show itself upon the surface. The suggestion borders too much upon the absurd to conceive that it should be otherwise. If, however, anything should be possibly considered to be further wanted, I may state that if Sir George Johnson had turned to the reference given in my book from which he has quoted, he would have found that in the application of the test not only was the evolution of carbonic acid by unmistakable fermentation observed, but also the chemical recognition of the production of alcohol.

Then, as to the phenyl-hydrazine test, Sir George Johnson says: "Dr. Pavy assumes that the formation of osazone crystals affords conclusive evidence of sugar being present; but Dr. Noel Paton, in the paper above quoted [a paper contained in the December number of the *Edinburgh Medical*

Journal on the Physiology of the Carbo-hydrates, which, I may announce by the way, will be shortly criticised by me], says: 'The carbohydrates are not the only bodies which yield crystalline compounds with phenyl-hydrazine. A glance at Beilstein's 'Organic Chemistry' shows that a vast number of substances give such crystalline compounds.'" There is nothing new in being told that there are other substances besides sugars that yield crystalline osazones with phenyl-hydrazine. The bodies that do so, however, are restricted to those which, by virtue of their molecular constitution, belong to the aldehydic and ketonic groups. It is not the mere fact of the formation of a crystalline osazone that is relied upon, but the distinctive characters presented as regards form, melting point, and solubility.

Sir George Johnson seems to consider it no offence to literary probity to quote from an author as far as he finds it convenient and to stop short when he comes to that which does not suit his purpose. In this particular instance, the very thing which he is striving to deny is given as a proven point, brought to bear in connexion with another matter, by his author in the succeeding words to those abstracted for use! Running on from the quotation given above by Sir George Johnson Dr. Paton says: "It is only when an elementary analysis of the compound [osazone] is made that it can be definitely concluded that a carbohydrate is a constituent part. Such analyses are given by Baisch in his researches on the carbohydrates of the urine, and by Bial in his observations on the sugar produced by the ferment of the blood, *and the conclusions of these authors are thus placed beyond doubt*." (The italics are mine.)

Passing to Von Baisch's own writing, the effect of what he says[1] is that the existence of sugar in normal urine is susceptible of demonstration by the polarimeter, evidenced by crystalline from melting-point and composition, by Fehling's solution, by the production of glucosazone with phenyl-hydrazine, and by fermentation with yeast with the formation of alcohol.—I am, Sirs, yours faithfully,

Grosvenor-street, Jan. 30th, 1895. F. W. PAVY.

*** Dr. Pavy's letter was received last week, but did not reach us till too late for insertion.—ED. L.

To the Editors of THE LANCET.

SIRS,—If Mr. Allen had carefully read the paper which he has done me the honour to criticise he surely would not have made the numerous inaccurate statements to which he has committed himself. With your permission I will briefly reply to some of his assertions which call for special notice. In the early part of his letter he incorrectly states that I do not claim for the picric acid reaction that it is "absolutely reliable" as applied to urine containing less than 2 grains of sugar per ounce. Yet in a subsequent paragraph he truly states that I place the limit of delicacy at 0·01 per cent., this being one-fifth the amount which Dr. Pavy in his book and Mr. Allen in a previous communication to THE LANCET[2] declare to be present in normal urine. How does Mr. Allen reconcile these conflicting statements?

Again, Mr. Allen politely suggests from the concluding paragraph of my paper that I am ignorant of the fact that an ounce of water weighs 437·5 grains, not 480 grains. The following is the paragraph referred to: "The percentage weight of sugar to the volume of urine may be ascertained by dividing the number of grains per fluid ounce by 4·8." My critic would doubtless resent the suggestion that he is ignorant of the fact that a fluid ounce contains 480 minims, and therefore that in urine containing 4·8 grains per fluid ounce the proportion of *weight* to *volume* is 1 per cent. There is here no question as to the weight of distilled water. In our English system there is not the direct relation between the volume and weight of water as in the foreign metrical system. Thus, 1 c.c. of water weighs 1 gramme, while 1 minim weighs 0·911 grain. It is, therefore, simpler, if not more correct, to speak of the percentage of grains to the volume of the liquid analysed rather than to the weight of water. Mr. Allen erroneously attributes to me the view that any amount of sugar less than 2 grains to the ounce may be safely neglected, and this notwithstanding my repeated assertion that as normal urine contains neither sugar nor albumen the smallest trace of either is pathological, and therefore may not be "safely neglected."

[1] Zeitschrift für Physiologische Chemie, Band xviii., p. 193.
[2] THE LANCET, July 28th, 1894.

Mr. Allen's statement that it is impossible to distinguish slight differences of tint in liquids, that the colour resulting from the picric acid reaction is "blood-red," "brown red," and even "deep coffee brown," indicates either that he has had scarcely any experience of the test or that he has the misfortune to be colour-blind. The dark-red colour which results from testing a liquid which contains more than 1 grain of sugar per ounce is by dilution brought to the ferric acetate standard colour, which is neither blood-red nor brown-red. It is practically easier to ascertain the identical shade of two bright red liquids placed side by side than to determine the exact point at which the blue colour finally disappears from Dr. Pavy's valuable ammonio-cupric solution. Mr. Allen's *a priori* assumption that there is no strict relation between the degree of picramic acid colour and the amount of sugar in solution is disproved by numerous conclusive observations and experiments. When a known weight of glucose, varying from a small fraction of a grain to 40 grains per ounce or more, is dissolved in water the amount is indicated with the greatest facility and certainty by the colour test. When the amount of sugar is less than half a grain to the ounce the quantitative determination is made by diluting the standard solution in an accurately graduated tube until the colour of the weak saccharine solution is equalled.

Mr. Allen says that I must have been exceptionally fortunate in obtaining picric acid which does not give a red colour "when boiled with caustic alkali." If by caustic alkali Mr. Allen means solid caustic potash or a strong solution of the same, he surely must know that by this violent agent a solution of the purest picric acid is decomposed and reddened; but the liquid used for sugar testing is the weak liquor potassæ (P.B.) and using this solution I have, during many years' experience of picric acid, met with only one specimen which gave a red colour when boiled with potash, and that was a manifestly impure specimen.

This impure specimen not only gave a red colour with liquor potassæ but the boiled liquid was turbid. When a saturated aqueous solution of pure picric acid is boiled with half its volume of liquor potassæ (P.B.) the result is a pale yellow transparent liquid, without the slightest tinge of red, which on cooling deposits the pale yellow picrate of potash. Whether, as Mr. Allen suggests, "caustic potash is apt to contain traces of cyanides which react with picric acid exactly like sugar" I do not know; but this I do know, that no specimen of liquor potassæ that I have met with has produced this reaction with pure picric acid. My friendly critic may rest assured that I am careful to ascertain the purity of both the picric acid and the potash which I employ as test agents.

Mr. Allen, acting as *advocatus Diaboli*, having cleared the way by exposing the imaginary vices of picric acid, goes on to proclaim the supposed virtues of M. Crismer's "safranine" test. As this is admitted not to be a quantitative test its advantages are not so obvious as its advocate declares them to be.—I am, Sirs, yours faithfully,

Savile-row, W., Feb. 4th, 1895. GEORGE JOHNSON.

To the Editors of THE LANCET.

SIRS,—The fact that Dr. Pavy has obtained from normal urine a substance which undergoes the alcoholic fermentation with yeast is the strongest argument he has adduced that the substance in question is sugar. I find, however, on referring to p. 181 of his book, that the material he operated with was "strongly acid" and did not ferment with yeast till rendered alkaline with sodium carbonate. Sir George Johnson, in his letter published in THE LANCET of Jan. 26th, points out that here is a serious source of error, for the carbonic acid obtained might possibly originate by the interaction of acid and sodium carbonate. Acting on this suggestion, I have performed a few experiments which may not be uninteresting to those who have followed with attention the discussion between Sir George Johnson and Dr. Pavy. I took some yeast and found by control experiments that it caused the usual fermentation with a solution of dextrose. Next I found that the same yeast caused fermentation in some normal urine to which 1 per cent. of dextrose had been added; the acidity of the urine did not, therefore, inhibit the activity of the yeast. With normal acid urine, without any addition of sugar, it caused no fermentation, and with the same urine rendered faintly alkaline by ammonia the result was also negative. But in a third specimen, in which neutralisation had been effected by sodium carbonate, there

was an abundant evolution of carbonic acid gas. To a fourth specimen sodium carbonate was added, but no yeast; no gas was formed, showing that the salts to which urine owes its acidity do not of themselves decompose sodium carbonate. All these tubes were inverted over mercury and kept at a suitable temperature for the action of the ferment. One other tube was added to the list; this contained a dilute solution of sodium carbonate and yeast, no urine being added. Here also there was a formation of the gas. These experiments show that in testing for sugar by the fermentation test the use of sodium carbonate is inadmissible; and if it is found necessary to correct the acidity of a suspected sugar some other alkaline substance must be employed. The ammonia used in the experiment just recorded was not sufficiently strong to kill the yeast, as control experiments showed it to be still active after being exposed twenty-four hours in the faintly ammoniacal urine.

I am not prepared to explain how it is that carbonic acid gas forms on adding yeast to sodium carbonate. Two explanations suggest themselves: one is that the yeast has the power of decomposing that salt; the other is that the yeast itself contained some sugar which was decomposed by the cells in a medium containing sodium carbonate. For the present I am rather inclined to adopt the former hypothesis; for in the specimen of weakly ammoniacal urine there was no formation of gas, and, moreover, I have not succeeded in discovering alcohol in the tubes containing sodium carbonate with or without urine after being exposed to the action of the yeast. I may add that the yeast I used was slightly acid—this might be a possible explanation for its action.

With regard to the general question whether or not normal urine contains sugar I think that a careful study of the researches of Seegen and of Baisch, in which more stringent chemical methods were used than those employed by Dr. Pavy, will convince the impartial observer that a small quantity of glucose is obtainable. Whether this is artificially produced by the method of analysis, as suggested by Sir George Johnson, is a subject that demands renewed research. Dr. Pavy gives the percentage of sugar in normal urine about five times greater than has been found by these observers, and I think his high figure is most easily explicable by Sir George Johnson's hypothesis—namely, a neglect to take into consideration the reducing action of kreatinine.

I am, Sirs, faithfully yours,

King's College, London, Feb. 5th, 1895. W. D. HALLIBURTON.

"THE DEBATE ON THE NATURE AND TREATMENT OF PERITONITIS AT THE OBSTETRICAL SOCIETY."

To the Editors of THE LANCET.

SIRS,—I agree with Dr. Herman that it is a waste of time to discuss whether micro-organisms cause peritonitis—that is, so long as Dr. Herman assumes that they cause *all* peritonitis. That they do cause *some* peritonitis I have proclaimed on the housetops. But the jump from *some* to *all* is what I will not make. I claim much more for the purgative treatment than the simple relief of distension. I claim that it prevents death after abdominal section of all kinds, and I think it an absolute waste of time to discuss the words we are to use in defining the stages of the fatal process thus prevented. I am satisfied with the facts and most willingly leave the conundra to those who like them.

I am, Sirs, yours obediently,

Birmingham, Feb. 1st, 1895. LAWSON TAIT.

To the Editors of THE LANCET.

SIRS,—In his letter to you, dated Jan. 26th, Mr. Lawson Tait says, referring to myself: "I agree to admit his conclusion that the cases that die are peritonitis, because we make post-mortems of them and find it so." I have no desire to comment upon Mr. Tait's grammar, but if I understand his meaning I think it necessary to say that I have come to no such conclusion. I have pointed out that there are certain cases of abdominal section which exhibit signs of peritonitis after death, but in which if the abdomen is reopened some days after the operation, when the symptoms which Mr. Tait used to attribute to peritonitis are well advanced, but of course before the patient is moribund, no sign of peritonitis is found. Peritonitis, I hold, is therefore a secondary result in these cases, and is not the cause of the conditions which lead to the death of the patients. I have asked Mr. Tait, and I ask him again, to explain two contradictory statements made by him: The first, in 1886: "On the slightest indication of peritonitis after an ovariotomy we give a rapidly active purgative, it matters not what; the patient's bowels are moved, and the peritonitis disappears."[1] The second, in 1892: "I have never said that the purgative treatment will cure peritonitis."[2] Mr. Tait has repeatedly asserted that he has been misrepresented in this matter. I cannot answer for others, but I am not aware that I have ever misrepresented him. He now wishes me to leave him alone. I am willing to do so, but towards this end I would suggest that it would be well for Mr. Tait either to leave this subject alone or to explain what appears to be an inconsistency on his part, and that if he desires to make any further complaint of being misrepresented he should be good enough to state who has misrepresented him, and where the misrepresentation is to be found.

I am, Sirs, your obedient servant,

Portman-street, Feb. 5th, 1895. JOHN D. MALCOLM.

To the Editors of THE LANCET.

SIRS,—As a general practitioner with a large midwifery practice I for one am grateful to Mr. Lawson Tait for having some time ago published the results of his treatment of peritonitis by purgatives. I am not going to quibble as to the correct terms to be used, but I will say that cases occurred in my practice the symptoms of which were identical with those I am able to recognise in so-called cases of peritonitis, and by the treatment of the old-fashioned plan of rest and opium five out of every six died, but since I have adopted the purgative treatment (mist. alb.) in similar cases I have not had one death. To be able to save the patient's life is to me of far more importance than discussing whether we cure or prevent peritonitis. I am, Sirs, yours obediently,

RICHARD EMMETT.

Woodville, Kingston-road, Portsmouth, Feb. 4th, 1895.

"THE LONDON MEDICAL STUDENTS AND THE UNIVERSITY OF LONDON: A GRIEVANCE."

To the Editors of THE LANCET.

SIRS,—I am a London "Conjoint" man, and I have often felt the disadvantage under which we labour, many times having been told that I was not so highly qualified as Dr. So-and-so, who happened to be the fortunate possessor of a Scotch or provincial M.D. No amount of explanation will disabuse the minds of the laity on this point. My case is that of many. I am emboldened by Dr. Sisley's letter to suggest a remedy. Let Durham be persuaded to grant her M.D. degree (without residence) to practitioners of seven years' standing and not less than thirty years of age, instead of, as at present, to men not less than forty and of fifteen years' standing. After fifteen years in practice few men have either the time, opportunity, or inclination to devote themselves to reading for an examination, but during the first six years or so the case is just the opposite. Were this suggestion acted on much of the disadvantage under which we labour would be done away with.

I am, Sirs, yours faithfully,

Oriel House, Leigh, Essex, Feb. 4th, 1895. STANLEY KIRTON.

To the Editors of THE LANCET.

SIRS,—I have read Dr. Sisley's letter in your last issue, also in the *Standard*, and cannot but wonder why the London diplomate should have so many apologies put forth on his behalf. "Qui s'excuse, s'accuse," and it is regrettable that Dr. Sisley's repeated excuses will not tend to raise the conjoint diploma in one's estimation. It is hardly possible that anyone at all conversant with the question would have an opinion otherwise than that a teaching university in London is very desirable; but what most men seem to desire is a degree-mongering institute—a university which will grant a degree to men who have attained to nothing more either in general or professional education than the standard exacted by the London Conjoint Board. The curriculum required for this diploma would not be recognised by any Scotch

[1] Brit. Med. Jour., 1886, vol. i., p. 921.
[2] Ibid., 1892, vol. ii., p. 1050.

university as sufficient to qualify a man to present himself for the M.B. examination, nor is the preliminary examination deemed sufficient, while the University of Edinburgh does not even recognise such examination. Moreover, the standard in general education required for the M.B. examination is not of itself sufficient for the M.D. degree, and at Edinburgh University the number who graduate to M.D. is only one in four. Dr. Sisley displays a want of knowledge of university regulations and etiquette when he states that a graduate is a "Dr.," while the diplomate is only "Mr." Nobody is entitled to the address of "Dr." by courtesy or otherwise until he has graduated to a doctor's degree in one of the faculties of a university. Bachelors in all faculties are on the same footing in this respect, but the man who is most ready to assume the address of "Dr." is the one with the most inferior diplomas. By all means let us have a teaching university in London, but let it be one which will leave intact the standard of education exacted by the presently existing universities.—I am, Sirs, yours truly,

H. CRITCHLEY, M.A. Durh., M.D. Edin.

London, Feb. 4th, 1895.

"AN ATYPICAL ALBINO."

To the Editors of THE LANCET.

SIRS,—So far from nystagmus being an exceptional phenomenon in albinism, as one might infer from Dr. Squire's report of a case in the last issue of THE LANCET, it is, on the contrary, a very usual accompaniment of that condition. The pigmentless condition of the choroid so frequently met with in albinos, and the defective vision consequent thereon, is generally considered to be the cause of this symptom. To my mind, the interest of Dr. Squire's case rests upon the condition of the choroid, and on this point he has not enlightened us; but since he tells us that there seems to be no inconvenience in the presence of a strong light, and no defect of vision (although with regard to the latter I gather we have only the patient's word to guide us), the inference is that the choroid cannot be very defective. To what, then, is the nystagmus due? In albinism there is generally a total absence of pigment in the irides, but in blue eyes this is not so, but merely a deficiency, a fact which perhaps may account for the unusual amount of vision in this particular case. Considering that the nystagmus is so well marked it would be interesting to know (1) the condition of the choroid, and (2) the visual acuity of the patient.

I am, Sirs, yours faithfully,

R. BRUCE FERGUSON, M.A., M.B. Cantab.

Feb. 2nd, 1895.

"THE DENTIST'S EDUCATION."

To the Editors of THE LANCET.

SIRS,—With one point, at least, in Mr. Newland-Pedley's letter in THE LANCET of Feb. 2nd I most cordially agree—viz., that the Royal College of Surgeons should hold an examination in dental mechanics which all dental students should be compelled to pass before entering a hospital for their further training for the L.D.S. This previous examination in dental mechanics would ensure the due attention of students to this important subject, and would compel practitioners receiving pupils to see that the instruction which they profess to give becomes a fact instead of fiction, and in the event of their neglect it would be known with whom the responsibility rested. At the present time students may be rejected at the end of their hospital career because that which they should have learnt before they joined a hospital at all was never taught them, and the hospital becomes discredited unfairly, while it is impossible for parents to know with whom the responsibility really lies.

I am, Sirs, yours faithfully,

STORER BENNETT, F.R.C.S. Eng., L.D.S., &c.

London, Feb. 5th, 1895.

CORONERS AND THEIR DUTIES.

To the Editors of THE LANCET.

SIRS,—You will greatly oblige by giving your opinions concerning the duty of a coroner in the following case. A short time ago I was asked by a midwife (unregistered), who attended the woman in her confinement, to see the body of a child which she said was stillborn. I examined the body, but refused to give a certificate of stillbirth as the child was fully developed and there were no signs that it was born dead. The midwife informed me that the child was born "feet first." I communicated with the police, telling them that I could not certify and that probably the child died during the process of birth, and in my opinion if a medical man had been present the child's life would have been saved. This was reported to the coroner, who gave an order for burial, saying an inquest was unnecessary.

I am, Sirs, yours faithfully,

Feb. 4th, 1895. JUS CIVILE.

THE REMUNERATION OF THE RESIDENT OFFICERS IN ST. BARTHOLOMEW'S HOSPITAL.

To the Editors of THE LANCET.

SIRS,—I have heard that within the past few months the governing body of University College Hospital have decided to board as well as lodge the resident house surgeons and physicians of that institution, and no longer to exact a weekly payment from them. I am under the impression that St. Bartholomew's is now the only hospital in London (and, I suppose, it is admittedly the most wealthy) where the resident staff have to board themselves. I am informed that although a house surgeon there is paid at the rate of £25 per annum for his services, yet during the six months in which he is in residence he is usually about £1 per week out of pocket for his board. If this be true, is it not a shame that these gentlemen, who give their time and very often their health, and without whose services the work of the hospital could not possibly be carried on, should be subjected to a system of what is little else than sweating? It seems to me a great pity that the governors of that institution have allowed smaller institutions, which are dependent on voluntary contributions, to be before them in making such a laudable reform in the remuneration of their officials.

I am, Sirs, yours faithfully,

Jan. 10th, 1895. FAIR PAY.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Paupers' Food.

THE article in the *City News* of the 19th ult. has not been unnoticed. At the Prestwich Board one of the guardians said the worst day in the table was taken; but even then the cost should have been 3*d.* instead of 1½*d.*, which would give 1*s.* 9*d.* for the week; and he stated further that the cost "solely for food and drink" was 2*s.* 3*d.* In a letter to the paper Dr. Boddy, the medical officer to the workhouse, states that the books showed the cost per head was over 2*s.* a week, but that the number of young children who consume and receive less food than the adults, with also some infants at the breast, make the average cost for adults not much less than 2*s.* 6*d.*; and that the fact that the food is bought wholesale makes its amount considerably more than if it were bought at retail prices. Moreover, three ounces of tea instead of one and a quarter ounces are used to fourteen pints of water, and no soda is added. Pea-soup is given twice a week, and it is said not to be thin, but good. On four days meat and potatoes, and on Sundays bacon, potatoes, and bread, are given; and a few years ago new milk was substituted for skim milk. At the Salford Board the chairman of the workhouse visiting committee maintained that "margarine was better than bad butter," and that it cost more than 6*d.* a pound. There was some difference of opinion as to the tea, the chairman saying it was good enough for him, and that the old people preferred it without milk. Another of the guardians took a more generous view: "It was no use saying the tea was good" with eight pints of water to an ounce of tea, and he would reduce the water to six pints. Indeed, he considered that the paupers should be treated "like ordinary Christians," and should have milk in their tea. The recent circular of the poor law board is so humane and considerate in tone that it seems as if for the sick and aged the days of penal severity may come to an end as soon as the guardians, or at least some of them, have grasped the idea that old age and sickness are not criminal.

Medico-Ethical Association and the Midwives' Diplomas.

A special meeting of this association was held about ten

days since to consider the action of those members who still grant diplomas or certificates to pupil midwives, the effect of such action on the training of medical students, and to decide the course to be adopted. After a long and somewhat heated discussion, a resolution condemnatory of the giving of these documents was passed by a large majority. Although many of the consultants, or specialists, as they are too often designated, are members of the association, general practitioners are the most numerous. The latter contend that this movement is ruining their midwifery practice, the importance of which as the surest stepping-stone to family practice has long been acknowledged. This is believed to be due to the multiplication of midwives by the temptations and encouragements thrown out to women to take up this branch of the profession after a training of three months. According to the testimony of those acquainted with some of these women the training must be in many instances scanty in amount and the knowledge acquired very superficial, consisting largely of learned phrases, not always apposite, but well calculated to impress those more ignorant than themselves. Some have advertised in the papers that besides attending midwifery they treat the diseases of women and children. All this is distinctly asserted; but, even allowing for some exaggeration, it discloses an evil pretty sure to accompany the good the authors of the new order of practitioners no doubt sincerely hope for. The general practitioners deny the need of so many midwives, though they appreciate the value of good nurses. Much correspondence (not calculated to raise the profession in public estimation) has been going on for months past in the Manchester papers. Most of the letters are anonymous, some purporting to come from members of the profession, others from laymen, and some from midwives. The Professor of Gynæcology in the Owens College has written long letters to the papers, advocating what is called the professorial view that this action is philanthropic. The general practitioners, on the other hand, feel sorely aggrieved, saying that it is taking the bread out of their mouths and is no boon to the poor, but is fraught with danger. Just now feeling runs too high for calm and dispassionate treatment of the question. The spectacle is not edifying, even to a looker-on belonging to the profession, and the lay spectator may be forgiven if he should feel some contempt for a divided profession carrying on its squabbles in public.

Manchester Eye Hospital.

The seventy-ninth annual meeting was held on the 23rd ult. At the out-patient department in John-street 11,972 patients attended, an increase over the previous year of 1405; at the Oxford-road Hospital 9603, an increase of 1269: the total being 21,575, showing an increase of 14 per cent. There were also 1336 in-patients, against 1315 in 1893. The average stay in hospital was twenty days and three-quarters. The accident cases at the two places were 3020, against 3234 in the previous year. The benefits of the institution are freely sought by patients from the neighbouring towns. The chairman said that in 1889 the number of patients was over 15,000, but now they had "achieved the grand total of 21,575"—a number, he believed, reached by no other hospital except that of Moorfields in London. Mr. W. H. Holland, M.P., said "there was a surprising need for the institution, as was shown by the fact that the out-patients showed an average of 70 per day." These statements show that crowds of people are ready to make use of the hospital, but whether they suggest an abuse of the charity is another question. The lay board of a hospital is no doubt influenced—often unconsciously—by the feeling that the institution must be made a success; and this can best be made clear by the number of patients that can be cited at an annual meeting, showing what a "grand total" has been "achieved." Among the 21,575 out-patients, how many were suffering from trivial affections such as any qualified practitioner could treat, and how many could have afforded to pay his modest charges?

Medical Evidence at Inquests.

A question arose at the conclusion of an inquest yesterday on a case of poisoning by an overdose of chloral which is of some interest. The medical witness was asked by the coroner why he did not give assistance to the officer who was sent to him for information in order to prepare his report. The witness said he had done so. But it was objected that he would not state the cause of death, to which the answer was that on two previous occasions when he had done so inquests were held, but no medical evidence called. The coroner spoke about spending the ratepayers' money, and said: "If we can do without a doctor we always do." The witness maintained that he did give assistance to the officer, and that the information he withheld could be best given at the coroner's court. Is it fair to a medical man to obtain from him gratuitously information that will enable the coroner to do without his evidence?

Feb. 5th.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

"Should Doctors Dispense?"

UNDER the above title an animated discussion has lately been carried on in one of the local evening papers. The origin of the controversy was a case which occurred in London. It is notorious that chemists will prescribe for patients over the counter, an abuse which it is difficult to prevent as long as the public choose to adopt this form of getting medicine for their ailments. As a rule, no doubt chemists act carefully and intelligently, but the evil remains as to the mode of doing so. The reasons against medical men dispensing their own medicines are urged with more coarseness than candour—that the power of giving death certificates might be used to cover any fatal mistake; that they have not a sufficient knowledge of dispensing; and, lastly, the liability to substitute cheap drugs for more expensive and efficacious ones. As usual a middle course reveals the truth. It is impossible for a medical man living in a rural district to avoid dispensing his own medicines. In large towns the competition among medical men who do their own dispensing renders it a necessary part of their living. In better-class practices the same excuses do not hold good, and the principle of each sticking to his last will enable the medical practitioner to prescribe and the chemist to dispense, with the mutual good understanding which generally prevails.

Hospitals and the Voluntary System.

At the annual meeting of the Children's Hospital, held on Jan. 28th, the President, Lord Cobham, made some interesting observations upon this subject. He was afraid that unless these institutions received more liberal support the voluntary system could not go on much longer, and the State would have to step in and undertake the management. He mentioned also that the new death duties would probably influence the direction of contributions. I am inclined to think that the views thus expressed are somewhat too depressing, and that, making allowances for bad trade, scarcity of money, and the rapid increase of population, this aspect is too severe for general acceptance. In this city the charities are doing fairly well under the circumstances. In this particular hospital, thanks to the energy of the committee, the subscription list was raised last year by about 10 per cent. The amounts vary in different years to individual institutions, and there is no doubt that fresh sources of income must be found to meet the requirements of each. Increased activity in collecting, an aptitude in reaching the large class outside the usual subscribers, will do much towards raising additional funds. It will be a disastrous time when the experiment of handing over our hospitals to the State is tried, and the cheerful giver is supplanted by officialism and rates.

Registration of Midwives.

A special meeting of the Birmingham Branch of the British Medical Association was held on Jan. 31st to receive, *inter alia*, the report of the committee on the registration of midwives. A considerable amount of discussion took place, and in the end the report of the committee was rejected. The fate of the midwives was an adverse one; probably with some alteration in the propositions laid down another attempt to secure the adoption of rules for their efficiency and regulation may be more successful. At present the local feeling is certainly that of opposition to any scheme in which the effort to supply the needs of this branch of practice is taken from the *rôle* of the ordinary medical attendant.

The Wylde Green Poisoning Mystery.

On Jan. 19th I gave a *résumé* of this remarkable series of cases of poisoning, and stated that at the coroner's inquest Mr. C. W. Iliffe, the coroner for North Warwickshire, recommended that an expert should be asked to assist the medical

man in deciding as to the cause of death. The following is Dr. Klein's report upon a sample of the soup which appeared to have been the active agent in spreading the poison:—"I beg herewith to report on the results of the examination of the sample of soup submitted to me. I. On Jan. 24th I received a glass jar of fluid material, tied with a membrane. The material in the jar had, on opening, a sour smell and gave a strong acid reaction. It was a thick fluid, containing various vegetables, fat, and bits of flesh. Under the microscope besides these substances there were seen a multitude of microbes—in fact, the whole material was crowded with them. Amongst them could be recognised various forms of bacilli, differing from one another in length, and numerous yeast cells. II. Cultivations were at once made so as to isolate the microbes. These cultivations yielded the following microbes in colonies: 1. Torula, a yeast very copiously present. 2. A short non-motile bacillus, not liquefying gelatine, fairly abundant. 3. A bacillus which proved on sub-culture to be closely related to the bacillus coli. This microbe is a normal inhabitant of the bowels of man and animals, and is a prominent microbe of sewage. In the soup it was present in considerable numbers. 4. A bacillus which also proved on sub-culture to be closely related to the bacillus coli, but must be considered as a variety of the typical bacillus coli. It is also a normal inhabitant of sewage, and was present in enormous numbers in the soup. III. Experiments were made with the soup and with the cultivations obtained from it: (*a*) Feeding of mice with the soup produced no ill effects. This does not prove much since the time that had elapsed since the consuming by human beings at Wylde Green and the experiments made here was considerable; and it is known that organic substances poisonous at one time lose their action when exposed to additional fermentative changes. (*b*) Inoculations of guinea-pigs with the cultures of microbes Nos. 3 and 4 (bacillus coli and variety) prove these microbes to be virulent, microbe 4 was particularly highly virulent. (*c*) Inoculations of guinea-pigs with microbes 1 and 2 had no ill effects. (*d*) Microbe 4 multiplies extremely rapidly in beef broth kept at body temperature—i.e., about 37°C. It turns the broth very turbid in twenty-four hours, the broth being filled with the microbe. In addition there are present by this time numerous flakes and flocculi entirely made up of the bacilli. If such a broth culture is subjected to filtration, by which the bacilli are separated from the fluid, and when this latter is injected in small quantities (0·05 c.c.) into guinea-pigs, it is found that these die in from six to eight hours under symptoms of acute poisoning. From this it is then clear that this microbe is capable of forming rapidly in broth poisonous chemical substances. IV. Conclusions.—From the foregoing observations the following conclusions can, I think, be drawn. 1. The soup contained microbes which were derived from sewage; it is, therefore, highly probable that the soup had been polluted with sewage. 2. Amongst the microbes present in the soup the bacillus mentioned (*sub* 4) as a variety of the bacillus coli is possessed of virulent properties on account of its extremely rapid multiplication at the body temperature and the poisonous substance which it elaborates in broth culture. It is most probably this microbe which caused in the consumers of the soup the ill effects and the disease. This bacillus, it will be remembered from the foregoing paragraph, was present in the soup in enormous numbers."

Feb. 5th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

The Appointments to the Scottish Lunacy Commission.

IT is with much satisfaction that we in Scotland have received the news of the appointment (already announced in your columns) of Dr. Fraser as Assistant Commissioner in Lunacy to the Commissionership rendered vacant by the resignation of Sir Arthur Mitchell. When Sir Arthur Mitchell's resignation was intimated it was pointed out in these columns that the vacant commissionership ought to be filled by the promotion of Dr. Fraser. It was feared that political considerations might unduly influence the appointment. I do not profess to be acquainted with the political bearings of this appointment—if there are any; but it may safely be said that to the profession as a whole Dr. Fraser's appointment is most satisfactory. His work as deputy commissioner has been done with zeal and enthusiasm and with that kindly and judicious consideration for patients and their friends which is so desirable in anyone holding such a post. Dr. Fraser was a distinguished student of the University of Edinburgh, being one of the two best men of his year. After graduation he became assistant medical officer to the Fife and Kinross Asylum, and some years later superintendent. In that position he showed great administrative ability and tact, and when a vacancy occurred on the Commission by the retirement of Dr. Paterson, Dr. Fraser was appointed an assistant commissioner in 1877. Part of his duty in this capacity has been to visit boarded-out lunatics in many of the most outlying parts of the Highlands and islands, duty implying a good deal of arduous work, travelling, and exposure. The post rendered vacant by Dr. Fraser's promotion has been given to Dr. J. F. Sutherland, medical officer to the Duke-street Prison, Glasgow, who is also a graduate of Edinburgh University. Dr. Sutherland is secretary to the departmental committee on habitual offenders, vagrants, and inebriates which lately sat in Edinburgh, and he has taken an active interest in, and has written upon, hospital construction and management, dipsomania, and allied topics.

St. Andrews University and the Medical Education of Women.

A correspondent, who writes as if he were well acquainted with St. Andrews affairs or inspired by someone in touch with the inner workings of that University, has written to one of the Scottish newspapers on the subject of the medical education of women. He says that at a recent meeting of the University Court it was proposed and carried: "That two chairs be founded at St. Andrews and endowed out of the Berry bequest, to be called respectively the Berry Chair of Anatomy and the Berry Chair of Materia Medica, with a view to giving two complete *anni medici* at St. Andrews." Mr. Berry, whose name is attached to these proposed chairs, left a legacy of £100,000 to the University. The correspondent says that it has been felt for years that it was important to develop not only medicine, but also science, at St. Andrews. The medical and science chairs at present are chemistry, natural history, physiology, natural philosophy, and mathematics, and a lectureship on botany. If to these were added a chair of anatomy and another of materia medica the medical and science chairs would be eight in number. The facilities for studying the fundamental subjects in medicine and science at St. Andrews could not, it is held, be surpassed. The distance between St. Andrews and Dundee is found to be an insuperable barrier to having the St. Andrews medical and science school located wholly in Dundee. Not a few of the divinity and arts students are desirous of studying medical and science subjects at St. Andrews for the purpose of general culture, and it is right and reasonable they should have opportunities for so doing. Comments are then made to the effect that the affiliation of Dundee with St. Andrews had been a failure. It is pointed out that, according to the ordinances recently issued by the Universities' Commissioners, two years of university residence are required on the part of all those who aim at graduating in medicine in any of the Scottish Universities, it being provided that the remaining three years can be taken at any recognised medical school in Great Britain or Ireland. Other reasons for extending medical teaching at St. Andrews are that quite recently fifteen medical bursaries, each of the annual value of about £30, have come to the University, and are designed for lady medical students at St. Andrews and cannot be transferred to Dundee or elsewhere. To this is added the fact that a spacious residential hall is about to be built for lady students attending the University, so that it is regarded as the bounden duty of the University to make an effort to supply the necessary medical teaching for at least the two residential years. No objection can well be made to this scheme. St. Andrews cannot ever be a fully equipped medical school, for it has no facilities for clinical teaching, and if it prefers to try to attract students for a couple of years, rather than have a fully equipped school at Dundee, no objection need be made to it. As a matter of experience schools which only provide a partial curriculum are not successful, and now, both in Edinburgh and in Glasgow, a full curriculum is provided for female medical students, which allows them to graduate at the university of the city in which they have studied.

Public Health at Glasgow: Small-pox and Vaccination.

The most alarming feature in the public health of Glasgow just now is the rapid and very considerable spread of

small-pox. Starting about a month ago with five cases (all in one family) there are now (Wednesday) thirty-nine cases in hospital, most of them severe. As many of the patients worked in a rag store suspicion was at first directed to the rags with which they worked as being the source of the infection. This view has now, however, been given up, the disease having been carried by one of the first cases to the store in which she worked. This outbreak is the largest and most important we have had in Glasgow for a good many years. It started in a family whose history affords a good object lesson in the value of vaccination. The family in question is a respectable one, living in a house of three apartments; the ages of its members and their condition as to vaccination are as follows: Father, fifty-two, vaccinated; mother, forty-eight, had small-pox in infancy; grandmother, seventy, vaccinated; son, twenty-seven, vaccinated; daughter, twenty-one, vaccinated; daughter, twenty, vaccinated; daughter, eighteen, vaccinated; daughter, fourteen, unvaccinated; son, twelve, vaccinated; daughter, eleven, unvaccinated; daughter, six, unvaccinated; grandson, four, unvaccinated. The last to be vaccinated was the boy aged twelve, who shortly after developed hydrocephalus; he is at present a dwarfed child, almost perfectly helpless, with a very large head. As this illness was attributed to vaccination the parents would not allow any of their other children to be vaccinated. As far back as Dec. 7th one of the girls (vaccinated) fell ill, developed a few spots, but after ten days at home she returned to work. Then the four unvaccinated children sickened in succession, and were removed to hospital, where one died from malignant small-pox and the others are struggling for their lives. As this infected family were in unrestrained intercourse with the public from Dec. 7th till about Jan. 9th the extent of the present outbreak need not be wondered at. Amongst the later cases was that of a friend of the family; he was said to have been vaccinated in infancy, but he presented no mark of the operation; he died shortly after admission to hospital. This history gives a good illustration of the basis on which much of the popular prejudice against vaccination rests. The hydrocephalus, which, like many other allied diseases, is apt to appear in the first year of life, had nothing to do with the operation; it led to the abandonment of vaccination in this particular family, however, rendering it a standing danger to the whole community, and causing lasting grief and regret to the parents, who were themselves protected.

Feb. 5th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The Outbreak of Small-pox in Dublin.

IN consequence of this contagious malady showing no abatement in Dublin the Public Health Committee have adopted a resolution to the effect that, having heard Sir Charles Cameron and Mr. Stafford, Local Government Board inspector, and having given the question of the prevention of the spread of infectious disease every consideration, this conference is of opinion that in the interests of public health provision should be made for the isolation of such infectious disease by the erection of one or more hospitals to be wholly devoted to the reception of such cases. It is proposed that these hospitals shall be erected in some rural district distant from any populous centre and that thereafter no infectious disease shall be received into any of the existing hospitals in Dublin. The above resolution has been recommended to the serious attention of the urban and rural sanitary authorities of Dublin and surrounding townships, with a request that they should nominate representatives to attend any future conferences convened by Sir Charles Cameron.

Health of Dublin during December.

Sir Charles Cameron in his report on the state of public health in Dublin for the month of December states that as compared with the previous month the mortality caused by small-pox was more than double—viz., 26. There was an increase in the fatal cases of typhoid fever, diarrhœa, dysentery, and whooping-cough. The death-rate was 3·85 per 1000 below the mean rate for the corresponding month in the previous ten years. Notwithstanding the epidemic of small-pox the zymotic death-rate was only 0·53 in excess of the mean rate for the month. The epidemic of small-pox continues, and, no doubt, will continue during at least the winter months. It had nearly died out upon the north side of the city, but it now appears to be on the increase there. During the month cases of small-pox were admitted to hospital from thirty streets on the north side and ninety-six on the south side. Everything has been done to limit the spread of the disease. At present there are no fewer than fifty-six men and women occupied in the removal of patients to hospital, in disinfection of clothing and bedding, and in the disinfection, whitewashing, and cleansing of infected dwellings.

The Battle of the Clubs at Cork: the Benefit Societies.

A meeting of the members of the different lodges of the Oddfellows was held last week for the purpose of electing a medical officer for the Munster, City of Cork, Commercial, and Hibernian Lodges. After some discussion it was decided to elect two medical officers instead of one. Applications were received from Mr. M. J. Cahalan, Nenagh, Mr. James McLoughlin, Dr. Joseph Alexander O'Sullivan, Dr. M. A. Morris, and Dr. W. McMath. Mr. McLoughlin and Dr. O'Sullivan were proposed as medical officers and unanimously elected. A meeting of the Roman Catholic Young Men's Benefit Society was also held to elect a medical officer, when, on a poll, Dr. J. A. O'Sullivan was successful by a majority of twelve votes. The following resolution was adopted unanimously: "That the best thanks of this society be conveyed to Mr. Maurice O'Connell for his unfailing kindness and attention to our members while acting as medical officer of the society, and we regret that the new rules of the medical profession oblige him to sever his connexion with us."

The Battle of the Clubs at Cork: the Attitude of the Chemists.

One of the most noteworthy incidents during the week in connexion with the club fight has been the action of the chemists. I must explain that the majority of the club medical officers in Cork have not been in the habit of supplying medicines, and a contract was generally entered into by the club with one of the local druggists. The rates varied, but latterly 5*s.* per family per annum was the lowest sum paid to the druggist. However, "example is contagious," and the druggists, finding that it was not merely poor working men they were dealing with, decided that the gentlemen members of the clubs should pay for their drugs on the same terms as anybody else. To accomplish that end the druggists, like the medical men, were obliged to include all club members unless the clubs should think fit to exercise reasonable discrimination in the admission of members. This action of the druggists, whilst helping themselves, must necessarily prove a very severe blow to the clubs in their fight with the medical men. To understand the full bearings of it it must be looked at in this way. The minimum charges asked by the medical men were 7*s.* 6*d.* and 15*s.*, according to income. Five shillings added for medicines would make 12*s.* 6*d.* and 20*s.* respectively. Now the member of the club gets no reduction on his medicine bill, which at the end of a few weeks' illness would amount to a very respectable figure. I wonder how soon the poorer members of the clubs will fully realise how dearly they are paying for their chivalrous defence of the rich men's meanness. Will the richer members give their employés an increase of wages to meet the increased cost of the medicine bill?

Health of Ireland.

During the quarter ended December last the births registered amounted to 24,977, equal to an annual birth-rate of 21·7, and the deaths to 18,799, or 16·3. The birth-rate in Ireland for the quarter was 0·4 over the average rate for the corresponding quarter of the past ten years, and 0·5 over the rate for the fourth quarter of 1893. The deaths were below the last quarter of 1893 to the extent of 3117. Compared with the returns of pauperism for the corresponding quarter of 1893 there is a decrease of 691 in the average number of workhouse inmates on Saturdays during the quarter, and a decrease of 1439, or 2·5 per cent., in the average number of persons on out-door relief. Measured by the mortality, the state of the public health must be regarded as satisfactory, the death-rate (16·3) being exceedingly low, and there has been no general prevalence of any zymotic disease. Small-pox caused numerous deaths in Dublin, but it appeared in only a few other localities, and but one death occurred outside the Dublin district. Whooping-cough was prevalent in several districts, and the mortality therefrom was above the average, as were also the deaths from scarlet fever and diphtheria; but, on the other hand, there was a decline in fatal cases of measles, typhus fever, enteric fever, simple continued fever, and diarrhœa.

Feb. 5th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Fetid Endometritis of Old Women.

ENDOMETRITIS occurring in women after the establishment of the menopause is doubtless due in some instances to the reawakening of an old infectious process or to a necrobiosis accompanying the elimination of a moderate-sized fibroma; but these causes cannot explain other cases. Thus, Fritsch,[1] and, later, Patru,[2] ascribe its occurrence to a destruction of the endometrium. In some of these sufferers the symptoms recall those of cancer of the uterus—vaginal irritation, periodic flow of pus, emaciation, and straw-coloured complexion. The importance of a correct diagnosis in such cases has impelled Dr. Maurange to publish three observations of the disease, for a description of which classical works on gynæcology may be vainly thumbed. The first case was that of a woman aged fifty-five, in whom menstruation had ceased at fifty. For the past few months she had lost flesh, the features were drawn, and the complexion yellowish. She complained of abdominal pains, with a constant discharge of a horribly fetid, thick liquid—so great was the stench that her *femme de chambre* could not bear to remain near her. An examination by Drs. Picqué and Josias, surgeon and physician respectively to the Paris Hospital, led to the diagnosis of cancer, despite the smallness and mobility of the uterus and the absence of lesions of the os. Hysterectomy was proposed and accepted, but fortunately for the patient the os was first dilated with laminaria, the removal of which gave exit to a flow of pus, floating in which were fragments of mucous membrane. Examination of one of the fragments failing to confirm the diagnosis of malignant disease, the uterus was thoroughly scraped, with the result that recovery ensued in a month. Two years later her appetite had returned, the complexion was normal, and all pains had ceased. The other two cases cited were similar to the first. It would appear that the disease occurs in women from five to fourteen years after the onset of the climacteric, that it attacks women who have had children as well as those who have never been pregnant, and that pathological antecedents have no appreciable influence on its occurrence. The symptoms are as detailed above, and, in addition, the sound enters for a distance of from seven to eight centimetres; its introduction is painful and its removal induces a copious flow of bloodstained pus whose fetidity surpasses even that of cancerous ichor. Only histological examination of débris collected by curettage can enable us to distinguish between this disease and cancer. In only one instance has this examination been made (by Dr. Maurange). The lesions discovered were those of chronic catarrhal endometritis—viz., glandular hypertrophy, leucocytal infiltration, and areolar hyperplasia. Macroscopically the uterine mucous membrane is swollen, hardly ever ulcerated, and is easily detached with the curette. The prognosis is favourable if the following treatment be carried out: dilatation of the os and thorough scraping of the uterine lining, followed by *tamponnement* of the uterine cavity with iodoform gauze.

A Cheap and Efficient Disinfectant for the Sick-room.

The fetid exhalations emitted by the fæces are a source of great annoyance to patients condemned to a prolonged sojourn in one room, as is the case in, for example, typhoid fever. M. Meillère strongly recommends the following powder as an efficient and very cheap deodorising and disinfecting agent: sulphate of zinc, 1000 grammes; sulphuric acid, 5 to 10 c.c.; essence of mirbane, 2 c.c.; colouring matter (e.g., indigo blue), 15 centigrammes. About five grammes of this salt are placed in the bedpan before it is used. Contact with urine or liquid stools determines prompt solution of the salt, deodorisation is instantaneous, and the liquid excreta are at once sterilised. The fetor is transformed into a rather agreeable odour. The employment of this method allows, also, of the preservation of the excreta for microscopical examination.

Antitoxin Gossip.

Notice is given that, after the 10th inst., practitioners and the police desirous of procuring anti-diphtheritic serum must apply, not to the Pasteur Institute, as at present, but to pharmacists, who will then be the exclusive *dépositaires* of the precious antidote. The poor of Paris and the provinces will be supplied gratuitously through the Assistance Publique and analogous provincial bodies, the distribution being regulated by rules formulated by the Comité Consultatif d'Hygiène Publique de France and the Administration. Meanwhile, the readers of THE LANCET will be glad to have fresh statistics bearing upon the efficacy of the method in the diphtheria wards of the Hôpital des Enfants Malades. Thanks to M. Lebreton, I am to-day enabled to communicate the results of three months' application of Dr. Roux's method at that institution. At first the little patients were located in two wards—one for each sex—and in a common room where cases in which other germs in addition to Löffler's bacillus had been discovered were isolated. There have been erected since wooden pavilions, and the accommodation is correspondingly improved. In each case an injection of serum was invariably practised before the diagnosis was bacteriologically settled. It would appear that the energy of the antitoxin has increased, for smaller doses are now given than formerly. Of 330 children, 258 of whom were recognised as diphtheritic and treated solely with antitoxin and tonics, 35 died, giving a mortality of 12 per cent. Subtraction being made of 8 who died within twenty-four hours after admission, and without having had time to undergo the treatment, the percentage of deaths is diminished to 10·8. Twenty-four tracheotomies gave 9 deaths (37 per cent.), and 51 out of 60 intubations necessitated by diphtheritic croup yielded a mortality of 27·45 per cent., due to broncho-pneumonia or bronchitis already existing when the antitoxin treatment was instituted. The *contretemps* determined by the injections were (excluding one case of local suppuration due probably to a *lapsus* in disinfection): 1. Eruptions, principally urticarial, less frequently scarlatiniform or measly, and (twice only) polymorphic, accompanied in ten instances by an elevation of temperature above 102·2° F., this hyperthermia appearing to be caused by the employment of certain specimens of antitoxin. 2. Albuminuria, observed in 140 subjects. In 57 of these the phenomenon appeared late, as if it constituted an effort of elimination coinciding with recovery. Post-diphtheritic paralysis is said to be rarely met with, but figures are not supplied. Intubation is said to be less harmful than formerly, seeing that the injections allow of the more early removal of the tube. In many cases of pure diphtheria the removal was effected in forty-eight hours; its average sojourn was from three to five days, the guide being the cessation of the reproduction of false membranes. In 7 cases the tube had to be removed owing to its becoming obstructed either by membrane or by the string, which is only left attached in the case of children under one year and a half old. Seven times the tube was expelled in coughing, but it was not always necessary to reinstate it. In every case it is necessary to obviate the drying of the inner wall of the tube by the action of the steam spray kept going near the patient. Once the extractor used for the removal of the tube got loose and the tube was swallowed, to be later on expelled per rectum without any harm resulting. Sometimes removal of the tube is followed by spasm of the glottis, necessitating a fresh intubation. The possibility of these accidents impels M. Lebreton to give the preference in private practice to tracheotomy, intubation being reserved for hospitals. But even in the wards he believes tracheotomy to be preferable when grave asphyxial symptoms supervene. M. Lebreton does not appear to be in favour of antitoxin used prophylactically.

Feb. 5th.

[1] Handbuch für Frauenkrankheiten, vol. i., p. 990.

[2] Endométrite Purulente Sénile ou Endométrite Atrophiante. Revue Médicale de la Suisse Romane, May 20th, 1893.

VIENNA.

(FROM OUR OWN CORRESPONDENT.)

The Antitoxin Treatment of Diphtheria.

No less than three meetings of the Society of Physicians of Vienna were taken up by a discussion on this subject, but it cannot be said that anything new has been brought before the profession as a result. The majority of the speakers were in favour of the treatment, and the opposition raised by Professor Kassowitz was more a criticism of the scientific value of Behring's discovery than a report of his own personal experience, which he confessed extended only over eight cases. These cases all recovered, but Professor Kassowitz could not see that the improvement took place quicker than it might have been expected to do under any

other treatment. The following figures illustrate the results obtained with antitoxin by the chiefs of the Vienna Hospitals: Primarius Gusendinger of the Rudolfs-Kinderspital had 27 cases of diphtheria, of which 11 died, the mortality being under 40 per cent.; the mortality from diphtheria before the antitoxin treatment had been 45·5 per cent. Primarius Heim of the St. Josef-Kinderspital had 27 cases of diphtheria treated by antitoxin, of which 6 died, a mortality of 22·6 per cent. From Nov. 4th to Dec. 18th last, when no antitoxin could be obtained, 32 cases of diphtheria were admitted to this hospital, of which 21 died, with a mortality of 65·6 per cent.; while from Dec. 18th till Jan. 10th 21 cases of diphtheria were treated by antitoxin, of which only 4 died, giving a mortality of 19 per cent. The mean mortality from diphtheria at this hospital during the last ten years had been 51·1 per cent., with the maximum of 58·7 per cent. and the minimum of 38 per cent. Professor Monti, of the Poliklinik, had treated 25 cases of diphtheria with antitoxin, and only 1 case has died. He drew attention to the fact that post-diphtheritic paralysis occurred in a high percentage of his cases, and said that in 7 cases he had observed erythema to follow the injections, so that he believed them to be not quite innocuous. Primarius Unterholzner, of the Leopoldstädter Kinderspital, had treated 30 cases with antitoxin, of which 8 died, the mortality being 26·6 per cent. When antitoxin could not be obtained, the mortality rose to 66·7 per cent. The discussion lost the character of a quiet scientific debate and became very personal at the last meetings. Some of the most eminent physicians in Vienna appeared to conclude as a result of the debate that medical men would do well to study more closely the pathology and symptomatology of diphtheria before entering into dialectics on the value of the antitoxin treatment.

Memorial to the late Professor Billroth.

A bust of the late Professor Theodor Billroth will be unveiled on Feb. 6th at a special meeting of the Society of Physicians of Vienna. Professor Albert will give an address on the occasion.

Medical Peers in Austria.

Professor E. Albert, the teacher of surgery of the Vienna University, and Professor Wiederhofer, the body physician of the Austrian Imperial family, have been appointed members of the Austrian Herrenhaus (Upper House of Parliament).

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

Annual Meeting of the Victorian Branch of the British Medical Association.

THE Victorian Branch of the British Medical Association has changed the date of its annual meeting from the first to the last month of the year, so that it no longer clashes with that of its rival, the Medical Society of Victoria. The report of the council for the past year was highly satisfactory, and the balance sheet showed a credit of £240. The following officers were elected for the ensuing year: President, Dr. Snowball; Vice-President, Dr. O'Sullivan; hon. treasurer, Dr. McAdam; hon. secretary, Dr. Mullen; council, Dr. Gresswell, Mr. Kenny, Drs. Meyer, Molloy and Snowball, and Mr. Springthorpe. The retiring president, Dr. Felix Meyer, read an able and scholarly address. After commenting briefly on the continued advances of bacteriology, the results of "serum therapeutics," with a passing allusion to the treatment of snake-bite by chloride of lime, Dr. Meyer dealt at some length with the present position of his own particular branch of medicine, that of gynæcology, emphasising the necessity for the gynæcologist being also a physician in the true sense of the term, as "a misguided enthusiasm for the surgical attack of women's ailments has, from time to time, not only caused a depreciation of the value of the gynæcologist in the eyes of the general practitioner, but has constituted him in the lay mind a *monstrum horrendum*, with the result that not infrequently the conscientious suggestion of operative measures is received by the patient with coldness and distrust, if not altogether rejected." Dr. Meyer suggested that, "seeing what remarkable changes are effected in the nervous functions of women by changes in her special organs, it would, perhaps, lead to light being thrown on cases of female lunacy if the observations of the resident medical officers at asylums were supplemented by carefully conducted examinations by recognised authorities on the diseases of women." *En passant*, reference was made to the "new woman." "The growing girl," he considered, "educated in the elements of anatomy, physiology, and hygiene, can be taught to emancipate herself from the hurtful slavery of much that is fashionable in dress and custom without the possible danger of developing a three-volume novel or a fibroid tumour ..... With a healthy nervous system and healthy bodily functions women may be safely left to determine for themselves the limits of their 'sphere.'" Dr. Meyer also deprecated "the element of sexual psychopathy which has been a marked feature of some recent novels. Tortured theories of heredity, exemplified by undesirable or impossible men, women, and children, can serve no good purpose and may give rise to harmful impressions." The address concluded with an eloquent peroration on the future of medical science, which, being truly evolutionary, will continue its great work towards the prevention of disease, and then with the process of time "the evils that flesh is originally heir to, or has since acquired, will have become matters of ancient history, and the natural decay of great old age will remain the sole disease."

Chloride of Lime in Snake-bite.

The merits of chloride of lime as a practical antidote to snake venom are being tested as cases occur. Mr. Hodgson reports one case in the *Australian Medical Journal* for December. The patient was bitten on the left forefinger by a snake two feet long. A ligature had been applied round the base of the finger and the wound well sucked. A 1 in 60 solution of chloride of lime, freshly prepared, was injected in doses of 20 minims into the finger, into the back of the hand, and the front of the wrist; 100 minims were injected into the arm, 60 minims into the right calf, and 80 minims into the right forearm. The injections caused great pain. The patient recovered. Mr. Mackenzie reports another case. The patient was bitten on the third left finger by a tiger snake. A ligature was applied to the base of the finger within ten seconds of the bite, but in ten minutes caused such pain and swelling that the patient removed it. Almost immediately he collapsed and broke into a cold sweat. His subsequent symptoms were dilated pupils, giddiness, with staggering gait, and dimness of vision. One hour after being bitten 30 minims of a 1 in 12 solution of chloride of lime, prepared for four days, were injected into the left leg, a little later 30 minims were injected into the right arm, and at intervals twenty-five injections were given in all in different parts of the body. The injections caused no local irritation, and the patient gradually recovered. Additional symptoms which developed during the case were, hiccough, vomiting of blood, double vision, swelling of the tongue, intolerance of light, and drowsiness.

Treatment of Hydatids.

Hydatid disease—its prevention and treatment—is kept pretty continuously before the profession in Australia. At the last meeting of the Medical Society of Victoria Dr. R. B. Duncan of Kyneton read a paper on a Series of Cases of Abdominal Hydatids, and introduced an interesting discussion on their treatment. Dr. Duncan in most of his cases followed the method known as Lindemann's. In performing this operation he insists on the necessity of partially emptying the cyst by a trocar before incising it, and fixing it to the abdominal wall, and that, when fixed, it is unnecessary at the time of operation to further evacuate the cyst. Instead of using a drainage-tube afterwards he packs the cavity with strips of iodoform gauze. He points out that ventral hernia is very apt to follow this method of operating, and hence cysts of moderate dimensions can be treated by complete evacuation and immediate closure, as recommended by Bond; while "in a not inconsiderable number of cysts free in the abdominal cavity partial or complete excision may be practised." In the discussion that followed several surgeons stated that in Bond's operation it was unnecessary to close the cyst with sutures, and confirmed the statement as to the liability to ventral hernia after Lindemann's operation. Mr. C. S. Ryan quoted a most remarkable case in which he had operated six times, and treated chiefly by Bond's method, modified by not stitching the adventitia, thirty-two cysts, five in the liver and the rest in the omentum and abdominal cavity. Several of the latter were excised entire. The patient had recovered, but still had two cysts remaining, one on the convex surface of the liver and one in the spleen. In the *Australasian Medical*

Gazette of December Mr. L. Fitzpatrick of Dubbo, N.S.W., records seven cases of hydatids. One was dissected out of the anterior triangle of the neck, and another from the fibres of the external oblique muscle of the abdomen. Another cyst was in the loin and presumably in the kidney, and was successfully treated by tapping and drainage. The most interesting case was one of intra-cranial hydatid, causing blindness, nystagmus, and frontal headache, and close to the upper third of the occipito-parietal suture a small, soft, pulsating swelling. On exploration the bone was found to be absorbed and the cyst bulged through the aperture. It was incised and the mother cyst extracted. It occupied the subdural space, lying over the second and third occipital convolutions, pressing the cerebrum forwards and the cerebellum downwards. The patient died a few days afterwards with frontal pain, paralysis, and fever. The *Australasian Medical Gazette* also, in an editorial article, advises that the health authorities should give more attention to the prevention of hydatids. Children as well as adults should be instructed as to the nature, mode of propagation, and means of infection of the disease. All dogs should be treated for tænia by being purged and dosed with areca nut and turpentine.

Medical Journalism in Australia.

The New South Wales Branch of the British Medical Association have decided to purchase the *Australasian Medical Gazette* from its present lay proprietor and make it the organ of all the branches of the Association in Australia. The other branches are to be supplied with the *Gazette* at a reduced rate, and will each appoint a local editor, but will have no monetary responsibility.

Suicide of a Medical Man.

Dr. Hood of Grafton, N.S.W., died suddenly on Dec. 26th, and it appeared that he had taken a fatal dose of hydrocyanic acid. At the magisterial inquiry it was found that the deceased committed suicide while temporarily insane. He had been melancholic for some time.

THE INDIAN MEDICAL CONGRESS.

THE SECTIONS.

SURGERY AND OPHTHALMOLOGY.

DEC. 26TH, 1894.

Presidential Address upon the Influence of Percival Pott, Syme, Simpson, and Lister on Modern Surgery.

[Surgeon-Lieutenant-Colonel Edward Lawrie, M.B.Edin., delivered his presidential address in the Section of Surgery. Commencing with an eulogium upon British surgery in India, and quoting the case of an ovariotomy successfully performed by one of his own pupils, who had for assistants three perfectly untrained laymen, he passed to the consideration of the subject of his paper, saying :]

"I have thought long and anxiously over the problem of the best way of occupying the time at my disposal for the delivery of the formal Address on Surgery before this, the first Indian Medical Congress. The conclusion I came to was that we cannot do better than consider the influence of four great British surgeons on modern surgery—Percival Pott, Syme, Simpson, and Lister. Percival Pott represents the surgery of the latter half of the eighteenth century. He resigned the office of surgeon to St. Bartholomew's Hospital in 1787. Syme and Simpson resigned their posts of professors of clinical surgery and of midwifery respectively in the University of Edinburgh nearly a hundred years later. Pott and Syme both served their schools, as Pott used to say of himself, "man and boy," half a century. In one of his well-known tracts Pott says : 'Our fathers thought themselves a great deal nearer perfection than we have found them to be ; and I am much mistaken if our successors do not, in more ways than one, wonder both at our inattention and our ignorance.' Up to the time of Pott the state of surgery was imperfect. Operations were unnecessarily painful. The maxim *dolor medicina doloris* was accepted as fully demonstrated. Dressings were painful; the actual cautery was prepared as part of the necessary apparatus when the surgeon paid his daily visit to the hospital ; and the natural processes of healing were either not recognised or disregarded. Pott's biographer states that he lived to see these remains of barbarism set aside and a more rational plan, of which he was the chief author, universally adopted. Pott was singularly successful with the trephine, and his essay on Injuries of the Head is well worth careful study in connexion with the recent advances in brain surgery for which we are so much indebted to the splendid work of Ferrier and Victor Horsley. Pott discovered that, when the bone inflames after a blow on the head and a puffy inflammatory swelling makes its appearance in the scalp covering it, this generally indicates suppuration exactly opposite the same spot, on the inside of the cranium, which may be relieved by laying on the trephine. Pott published a most interesting and remarkable series of cases of head injury, numbers of which were lost from simple inflammation and pressure or from sepsis. There is very little doubt that most, if not all, of the cases to which I refer would have recovered if he had known the secrets of antiseptic surgery, which we shall see later he very nearly stumbled on to accidentally, and the modern use of antimony in the prevention of simple inflammatory conditions. When inflammation of the contents of the skull threatened to arise after injury of the head Pott's only available remedies consisted mainly of phlebotomy and the trephine, and he certainly used them most freely. Where he employed phlebotomy and the trephine in the cases of threatened intra-cranial inflammation we now use antimony, either in good big doses at long intervals or in small doses frequently repeated, and if it is a simple uncomplicated inflammation the antimony often cuts it short and saves the patient's life and obviates the necessity for an operation."

[Surgeon-Lieutenant-Colonel Lawrie then went on to mention the improvements introduced by Pott in the treatment of fistula in ano and internal hæmorrhoids. Continuing, he said :]

"I much regret that time will only permit me to draw your attention to one more subject in surgery on which Pott left the record and stamp of his genius. I allude to *fractures*, and it is curious to note that almost every word he wrote on the principles of their treatment more than a hundred years ago is true to-day. He begins his tract on fractures and dislocations with the following quaint words : 'No part of surgery is thought to be so easy to understand as that which relates to fractures and dislocations. This is the opinion of a considerable section of the general public. They regard bone-setting as no matter of science ; as a thing which the most ignorant farrier may become soon and perfectly master of ; nay, that he may receive it from his father and family as a kind of heritage.' In the treatment of fractures Pott insisted on the importance of setting the fracture at the earliest possible moment after its infliction, and that it is wrong to wait for pain and swelling to subside, as these and other symptoms of the injury are due to, and are best remedied by rectifying, the faulty position of the broken fragments. But the pre-eminent principle we owe to Pott is that, considered abstractedly, neither extension nor counter-extension can even be necessary on account of the mere fracture—i.e., on account of the mere fragments of the broken bone, which if left to themselves remain just as motionless, just as absolutely still and with as little tendency to move, as these pieces of bone on the table. Pott showed that nothing can move the fragments of a broken bone but the muscles which are attached to them, and that the difficulty we meet with in making and in keeping up extension of the broken limb proceeds from the muscles only. To extend the muscles by putting the limb into that position which puts them into a state of tension is, if not to irritate them and cause them to offer resistance, at all events to give them their greatest power, whether of displacing the fragments of the broken bone or of opposing their reduction or setting. On the other hand, putting a limb into such a position as shall most relax the whole set of muscles belonging to or in connexion with a broken bone must best answer the purpose of incapacitating the muscles from acting upon it, and must remove the resistance they have it in their power to make attempts to reduce or set it. It follows that such a position of the broken limb as will best relax the muscles must be the best for setting the fracture and for keeping it set afterwards. A moment's reflection will prove to you that this is generally the position which the patient naturally puts a broken limb into in order to obtain ease until he gets proper assistance. The general position with regard to fractures then, comparing Pott's day with our own, is this : the obstacle to the setting of fractures is the action of the muscles. In Pott's time there were two available means of overcoming or counteracting this action—namely (1) extension, and (2) position ; and Pott proved that extension is both unnecessary and painful. Modern surgery is armed with

three ways of doing the same thing—namely (1) extension, (2) position, and (3) chloroform. If extension is employed chloroform ought to be given in the setting of all fractures; but if position is relied upon—and it is entirely sufficient—the pain is so slight that chloroform is unnecessary in the setting of any fracture but the one exceptional fracture of the thigh. Not the least interesting feature in the connexion between Pott's principles of fracture treatment and modern surgery is the fact that the great surgeon himself once sustained a compound fracture of the leg. Amputation was decided on at a consultation of the St. Bartholomew's Hospital staff, and was within an ace of being performed when the opinion of one alone of the consultants prevailed and the limb was preserved. The fracture then united without inflammation, exactly like a simple fracture, and Pott attributed this happy result to the circumstance that when the protruding end of the broken tibia was reduced the valve-like opening of the soft parts closed behind it in such a way that the entrance of air into the wound was prevented, thus accidentally foreshadowing, a century in advance, the scientific aseptic method of the immortal Lister. In 1866, exactly 110 years after Pott's accident, which so nearly led him to the discovery of Listerism, Lister himself treated a compound fracture in the Glasgow Royal Infirmary by methodically preventing the entrance of air into the wound by means of an artificial scab of lint, blood, and carbolic acid; and in this way he opened up the new era which we call, and which is in truth, 'modern surgery.' The connecting link between Percival Pott and modern surgery is Syme. Pott died in 1788; Syme was born in 1799. Throughout his career, which ended in 1870, Syme upheld and consolidated Pott's surgical principles; but he was not the man to follow any beaten track, and during the fifty years he practised and taught he introduced many new measures into surgery which will perpetuate his name as long as medicine lasts. In 1823, when barely three and twenty years of age, he performed amputation at the hip-joint for the first time in Scotland; and in 1829 he excised the whole of the upper jawbone for the first time in Great Britain. A report of the latter case reached THE LANCET, and was published with the following editorial note in a bracket: 'We need no ghost from the grave to tell us what has become of the patient,' but a month later THE LANCET had the pleasure of recording his complete recovery. Syme established the operation of excision of joints in England; his operations on aneurysms have never been surpassed in boldness and originality; he showed that amputation of the whole arm with the scapula is a feasible procedure; and he was the first surgeon in England who successfully removed the whole tongue. It was not alone in great things that Syme excelled. It is to him that modern surgery owes the simplest and most perfect operation for harelip; the only faultless amputation known, that of the foot by the heel-flap; and the easiest and most lasting method of curing organic stricture of the urethra. With regard to Syme's amputation I need merely remind you that the tendency of all modern surgery is to make amputation flaps of skin. The next noteworthy phase of Syme's genius, which has had a remarkable effect upon modern surgery, was his almost intuitive perception of the cardinal point or essence, not only of an obscure case of disease, but also of new procedures and propositions in surgery. When Simpson brought *chloroform* to the notice of the profession Syme very quickly perceived the nature of its action and laid down rules for its administration, which have been proved by clinical experience and by the experiments of the Hyderabad Commission to be entirely sufficient when strictly followed to ensure the safety of the patient. Syme's rules are and I beg you will consider them well:—'The points we consider of the greatest importance in the administration of chloroform are: first, a free admixture of air with the vapour of chloroform, to ensure which a soft porous material is employed, presenting a pretty large surface instead of a small piece of lint or any other apparatus held to the nose; secondly, if this is attended to, the more rapidly the chloroform is given, the better, till the effect is produced, and hence we do not stint the quantity of the chloroform. Then, and this is the most important point of all, we are guided as to the effect, not by the circulation, but entirely by the respiration; you never see anybody here with his finger on the pulse while chloroform is given. We never continue the inhalation beyond the point when the patient is fully under the influence of the anæsthetic.' Finally Syme accepted and adopted Listerism as the perfection of surgical science, in that it keeps away or removes from wounds every source of external irritation and contamination which can interfere with the natural processes of healing or cicatrisation. The Listerian principle came to Syme as the most fitting termination of his labours in surgery, and he welcomed it with the quiet satisfaction of a successful general who has taken a leading part in an arduous campaign which ends in long anticipated victory. This brings us to the consideration of the direct influence of Sir Joseph Lister on surgery. However much the teaching of Pott, and later of Syme and his contemporaries, had led up to the antiseptic principle, or had, as it were, prepared the way for it, it came eventually as a surprise, and it revolutionised the surgery of the civilised world. The change was complete and final, though Lister has since improved his methods as the principle has been developed and circumstances have seemed to require it. The antiseptic method of Lister showed us exactly how to attain the very thing surgeons had been striving after for so long, but which no one had previously discovered. No surgeons had made greater efforts in this direction than the French. I spent the year 1868 studying medicine in the Paris hospitals, first in the service of Alphonse Guerin at the St. Louis Hospital, and later in that of Maisonneuve at the Hôtel Dieu. Alphonse Guerin thought he had discovered the panacea for surgical fevers and blood poisoning in lavish dressings of alcohol. He was undeceived by one of the worst outbreaks of pyæmia in the St. Louis Hospital which it is possible to imagine—one of his patients actually died from pyæmia after the amputation of a finger. Maisonneuve worked in a different fashion. His idea was that it was impossible to keep the germs of putrefaction, whatever they might be, out of wounds, and he therefore endeavoured to prevent organic fluids from collecting in them by exhausting them with an air-pump, which the patient had to work himself, and which was on this account impracticable. In other places it was hoped that by giving patients more cubic space in larger, better constructed, and better ventilated hospital wards success would be obtained. As to the value of this plan many of you may recollect what happened here in Calcutta. The Medical College Hospital was very nearly condemned as unfit for the treatment of surgical cases on account of inveterate pyæmia and erysipelas. At one time all the surgical patients were placed in tents; but, if anything, the erysipelas and blood poisoning were worse in the tents than they had been in the wards. All other attempts to successfully stamp out septic processes in wounds failed, and there is no more to be said about them than that they failed because they were not Listerism. The changes brought about by the introduction of the Listerian principle were mainly twofold—one immediate and the other remote. The immediate change was that hospitals in every part of the world, which had previously been considered unhealthy, became healthy under the antiseptic system, and it was found possible to keep surgical wounds absolutely free from sepsis and infection, no matter in what hospitals they were treated. The remote change effected by the Listerian principle in surgery is very ably explained in Watson Cheyne's paper on Modern Methods of Wound Treatment in THE LANCET of Nov. 17th, 1894."

[After some further remarks on Listerism the President passed to Sir J. Simpson and his application of the use of chloroform to surgery, and referred to the results of the Hyderabad Commission as proving that Simpson and Syme were right in their theories, and continued:]

"Finally, as you all know, the acknowledged safety of chloroform in India has been accounted for in various ways by our brethren in England. It does not appear to have struck them that the real reason for the safety of chloroform in this country is that for many years past the principles of Simpson and Syme have predominated throughout the whole of India; and it is not too much to state that the general adoption of these principles in modern surgery in future will alone render the benefits of Simpson's priceless discovery unlimited. Gentlemen, I have finished. I have endeavoured to bring before you this morning some of the principles of surgery which have been handed down to us by men like Pott and Syme. Their greatness and success as surgeons lay largely in their profound knowledge of anatomy, their choice of simple procedures and methods of operation, and their undivided responsibility for everything connected with the treatment of their patients."

The President concluded by an eulogistic reference to the medical profession in India.

PROCEEDINGS IN SECTION.

DEC. 26TH, 1894.

The following are abstracts of papers read in the section of Surgery and Ophthalmology :—

Vesical Calculus in India, its Distribution, and a Theory of its Cause.

Surgeon-Captain A. E. ROBERTS read a paper upon Vesical Calculus in India, its Distribution, and a Theory of its Cause. In this paper he said : "It has long been a commonplace of a certain rough-and-ready order of pathologists to assert the origin of vesical calculus in 'salts in the drinking water.' The theory commends itself by its beautiful simplicity; the patient takes in 'stone' at one end and passes it (or fails to do so) at the other, and makes as little demand upon the thoughtful intelligence of those who accept it as it received in the process of its conception. In the course of some observations on the chemistry of the excretions of natives of India I was struck by the fact, which runs counter to the routine doctrine of the schools, that the excretion of uric acid was far more marked in well-fed natives who never touch meat (or rarely) than in the ordinary European official living in this country. It then occurred to me that some one had attributed 'stone' in Norfolk to the excessive farinaceous diet of the people (? dumplings), and it was thought to be a promising subject to trace the incidence of the disease in its relation to diet in different parts of India, and on arriving at a definite fact of connexion to endeavour to explain cause and effect in physiological terms. Very roughly India may be divided into three great agricultural regions: 1. Extra-tropical India, the wheat region—the great plains of Northern India, where rainfall is moderate or small and the winter temperature comparatively low. This region almost corresponds with that lying north of the January isotherm of 65. The principal grains are wheat and barley. 2. The damper portions of tropical India, the rice country—all Bengal proper (including Assam), all the region north of the Krishna from the Bay of Bengal to the edge of the Trap country in the Deccan, together with the coast and delta lands of South India. 3. The drier parts of tropical India and all the black soil country, the millet region—besides the whole Deccan Trap area, with the exception of the west coast; this comprises all the black soil tracts of Southern India, and a very large proportion of the undulating red soil country. The principal grains are *jawari* (or *cholam*) and *bajra* (or *kambu*)."

[Surgeon-Captain ROBERTS then proceeded to give statistics of the various districts of India under grain cultivation, and continued :]

"Let us set down at once the relative incidence of calculus of the bladder in the various areas as above. The figures we give are the annual average prevalence of a varying number of years, as shown by all the various operations for calculus, and great care has been taken to search all available records, though these are in many cases very imperfect.

Different Areas of Hindustan in the order of "Calculus prevalence."

Area.	Proportion of population eating rice.	Rates of calculus operations per mille of population	Population in millions.	Average annual operations.	Remarks.
1. Punjab	1/5	0·078	19	1482	——
2. N.-W. P. & Oudh	1/4	0·021	45	925	——
3. Bombay	1/4	0·017	16½	283	——
4. Central Provinces	1/2	0·011	9¼	112	——
5. Bengal Proper ...	3/4	0·0034	69½	218	Numbers raised by Behar.
6. Madras	1/2	0·00067	31	21	——
7. Assam	3/4	Nil.	4¼	Nil.	None known.
Total annual average operations for all India				3041	

"1. In British India, then, every year no less than 3041 calculi are removed from the bladders of natives, or rather 3041 operations for the removal of as many (and more) 'stones' are performed, and of this total nearly one-half occur in the Punjab. 2. The next point to note is that the order of calculus prevalence is in inverse ratio to the population eating rice as its staple food upon each area. 3. Where practically the whole population lives on rice as its staple food calculus disappears, as in Assam. 4. As we leave the coast areas and mount ever higher above sea level towards the interior calculus increases in prevalence. Though Bombay stands third on the list its coast area is very limited, the rice-eating population is small, and the calculus rate represents the high-lying millet region of the Deccan. We place a double contrast in view in the above sketch—(*a*) a contrast between the staple foods of certain defined areas; (*b*) a contrast between the sea-coast and the interior. What we here set ourselves to show is that vesical calculus in India follows as a result of the factors involved in this double contrast. A very interesting battle drama is constantly going on in the upper layers of the soil—a fight between carbonic and silicic acids for possession of the bases, sodium and potassium, and the result is that the sea accumulates all the sodic chloride, while the soil inland is robbed of this salt and contains little else than potassium salts (see Bunge).[1] Now the amount of NaCl in any organism corresponds and varies with the amount in the environment. 1. Inland populations are, to a certain extent, battling with an unfavourable environment as regards the absence of the necessary salt, in which they originally developed; this also serves to explain the unconquerable desire which the great majority of people exhibit for salt in their food. 2. It explains the necessity for a liberal allowance of salt to children, our "embryological ancestors," if we may so call them, and the consequences of its deprivation will be the more apparent in pathological effects. The offices which common salt performs include—(*a*) The constructions of organs; (*b*) it is the chief factor in the formation of gastric juice; (*c*) it dissolves 'globulins'; (*d*) The nitrogenous products of metabolism cannot be eliminated by the kidneys in the absence of chlorides."

[Surgeon-Captain Roberts then discussed with great care the dietetic value of sodium chloride, with special regard to the physiological chemistry of the body, and showed how absolutely necessary it is for vegetable feeders to have a free supply of salt. He went on :]

"The people who take salt, though differing in every other respect, are all characterised by a vegetable diet. In the same way those who do not use any salt at all are all alike in taking purely animal food. We have also seen that this urgent necessity for salt in vegetable diet depends upon the eliminating action of the excess potash salts, and if various food stuffs are compared in respect of this potash constituent it will be found that the proportion of potassium to sodium is highest in the very food staples on which the vast bulk of the Indian population is supported—that is to say, highest in all the common Indian food stuffs save rice."

[Surgeon-Captain Roberts then drew a parallel between the diets of a native and a European soldier, pointing out how deficient salt is in the former's dietary. He went on to tabulate the results arising in the human economy from a diet exhibiting insufficiency of NaCl, and proceeded :]

"Now the most important Indian diet stuffs—i.e., the cereals and leguminosæ, not rice—yield urine which is as acid as that due to a meat diet, under normal conditions of digestion, because they are rich in albumen and phosphates and in calculus. The evil factors at work are, as we have shown, (1) the great amount of albumen and (2) the poverty of bases (due in great extent to deficiency of the common salt necessary, which are able to neutralise the uric and sulphuric acids formed from albumen). One more point as regards the liability of children to calculus. The amount of kidney excretion per kilogramme of body weight is far greater in children than in adults. Parkes gives the following statement :—

	In children.	In male adults.	Excess in children per kilogramme.
Water	59 c.c.	23 c.c.	36 c.c.
Urea	0·973 gram.	0·500 gram.	0·473 gram.
Urea and volatile salt...	0·279 ,,	0·151 ,,	0·128 ,,
Chlorine	0·308 ,,	0·106 ,,	0·202 ,,

[1] Physiological and Pathological Chemistry.

Hence in children the amount of chlorine is three times greater than in adults (note, also, the excess of nitrogenous products), and hence the special necessity of extra NaCl and the special liability to concretions in children. Again, NaCl acts as absorbent, not only of crystalloids, but of colloids, fibrin, mucin, and albumen. Bence Jones first showed the solvent action of NaCl on urate of ammonium, and this is also the case with uric acid. One part of uric acid requires 8000 parts of water to dissolve at the body temperature, whereas the addition of ½ per cent. of NaCl doubles its solubility, and 2 per cent. of NaCl quadruples its solubility (Plowright). Perfectly healthy urine should show no appreciable deposit; when it becomes concentrated (as it is liable to do in natives for reasons given) uric acid is thrown down as a urate. This may occur within the bladder, and the presence of a solid body in any part of the urinary tract favours depositions greatly. Dr. Goodhart has put it on record that the specially farinaceous feeders among children are those addicted to passing uric acid in abundance.[2] Lastly, Hirsch, in his great work on 'Geographical and Historical Pathology,' remarks on 'the mystery of the excessive prevalence of stone in the tropics,' while 'gout' is practically unknown. Now Dr. Haig, to whom I return thanks for much kindly personal help, has shown that the excretion of uric acid is greatly influenced by the comparative alkalinity or acidity of the blood, and that the amount of acidity may be made to vary within very considerable limits by the kind of food and by the process of digestion (as we have seen), as well as by the use of drugs. Uric acid in an acid blood tends to get stored in the spleen and joints, but when the blood is rendered alkaline (as we have seen it by deficiency of NaCl and excess of K) uric acid is dissolved out and excreted. We have then (1) greater tendency to formation of uric acid in natives, with excess of albuminates and their deficient metabolisms; and (2) very complete elimination of this uric acid by alkaline blood (due primarily to deficiency of common salt) as far as the bladder. The obvious result is that gout must be a very rare disease among the natives, because the alkaline blood stream never permits storage of the uric acid in the system or the joints. Sir W. Roberts[3] draws attention to the effect of sleep and long daily fasts in increasing the amount of uric acid excreted, and these are assuredly factors in far greater play among natives in India with their fast from evening to mid-day and their somnolent habits than in Europe. The very common affection of enlarged spleen is another factor in the excessive excretion of uric acid. Pettenkofer found the normal average to be 0·872, while in a case of enlarged spleen it rose to 1·424 part in 1000. A case of a boy of sixteen years of age is recorded who excreted 18·28 grains daily, while his normal average should be about 6 grains. We have then perhaps an excessive production of uric acid by the factors at work just described, and certainly far more complete elimination of it from the body and tissues by the alkaline blood stream as far as the bladder. What, then, causes its deposition here? I do not think we can at present detail with certainty the steps in the process, which are doubtless varying and complicated. One important factor, perhaps, is the neutralisation of the acid sodium phosphate (the uric acid solvent) by the aromatic sulphates; and we know that the alkaline bases are diminished which go to neutralise the sulphuric and uric acids. My chief object to-day has been to draw attention to some important dietetic considerations underlying calculus formation in India. More intimate and sustained observation of the chemistry of the excreta may perhaps avail to clear up doubtful points, and piece together the scattered fragments of our little knowledge, and I hope in a fuller paper to throw some light on this important problem."

A Retrospect of Ophthalmology in Bengal.

LAL MADHUB MUKERJI, RAI BAHADUR, L.M.S., F.C.U., President and Teacher of Ophthalmology, Calcutta Medical School, and President of the Indian Medical Association, read a paper on the above subject. He began by saying that though ophthalmology as an exact science was as modern as bacteriology, as a crude art it was known in the East from very ancient times, and that although until recently Oriental practitioners knew no anatomy or physiology, yet they had treated successfully nearly all the best-known disorders of the human eye. With this preamble he passed to consider modern ophthalmology in India and especially in Bengal.

"The history of modern ophthalmics in India dates from the establishment of the Medical College in Bengal in the year 1835. Prior to this a number of surgeons of the old Honourable East India Company's service had opened dispensaries in various stations in Bengal, notably in Calcutta, where the poor had their ailments gratuitously treated and often at the entire cost of these medical men. In these outdoor infirmaries, as they were called, there were a few beds for operation cases, and here Western medicine gained many of its earliest disciples, who became useful and distinguished practitioners. Not, however, until 1835—that is, on the opening of the Medical College Hospital in Calcutta—was any well-organised effort made to teach anatomy and physiology. Sixteen years later Western ophthalmics found an able exponent in Dr. Martin, whose appointment to the chair of ophthalmic medicine and surgery dates from the year 1851. His successors, Mr. Macnamara and Drs. Archer, Cayley, and Jones, have all been men of great ability, and have left brilliant legacies of their work behind them. Charles Macnamara, who is now one of the leading ophthalmic surgeons of London, gave India the first work of eye surgery and medicine based on Indian experience, and his book is still a valuable guide to our students, in spite of the gigantic strides that ocular therapeutics have made in the past two decades. I will deal briefly with some special points connected with ophthalmics in Bengal, and of necessity I can only touch the merest fringe of my subject, which has admittedly a very wide range. The world has been busy with ophthalmics, and never in the history of our profession has there been such a profuse display of knowledge and original research in ocular therapeutics as we have seen in Great Britain, America, France, Germany, and Europe generally at the present time. It is not my province to deal with new light and recent knowledge, but I am called on to sift the garnered grain of past generations, and to present, if possible, in a nutshell the work of others whose lives and records are now matters of history. In Bengal we have ocular diseases common to India generally, but I am concerned only with this province, and the limit of time and space remind me, and you also, of the duty of brevity. My remarks, therefore, will scan such familiar disorders as cataract, ophthalmia neonatorum, glaucoma, atrophy of the disc, and disorders of refraction and accommodation. The occurrence of cataract in Bengal is very common, and this may be judged by the fact that on an average nearly 300 operations have been performed yearly in the Eye Hospital of the Medical College during the past thirty years. The most generally performed and most successful method of operating for cataract in Bengal has been, and is still, by simple extraction of the lens without iridectomy, the pupil being previously dilated with atropine. The incision involves about one-third of the cornea and is made as nearly as possible in the sclero-corneal junction. There is much in success which depends on the individuality of the operator, and this cannot be exaggerated. Clean steady fingers and a delicate, dexterous touch, with a high moral appreciation of the responsibility, do more to make a record in successful ophthalmics than all the book reading in the world. I am able to corroborate this assertion by my own experience in watching the exceptionally able and dexterous operative work of my old teacher and friend, Mr. Charles Macnamara, a former professor of ophthalmics in the Calcutta Medical College Hospital. His modified linear extraction, which bears his name, involved no iridectomy. The pupil having been previously well dilated, his incision, so perfectly performed by a special knife of his own invention, left it an easy matter to introduce a scoop, and with a gentle pressure exerted upon the circumference of the lens caused it to be rotated on its axis to find a rest in the concavity of the scoop and thus delivered from the eye with the least possible disturbance of the adjoining structures. The lens with its capsule entire so freed resulted invariably in the most perfect success of vision possible. Such, too, was the special individuality of Professor Henry Cayley of our College, whose operative work with cataract was extremely successful from the combined methods of Professor Macnamara and Von Graefe. The success of these two Calcutta ophthalmic surgeons gave a result of 87 per cent. of cures by Macnamara's method and 77 per cent. by von Graefe's. It is important in this connexion to state that these results were from hospital patients, in whom there was no choice of selecting suitable or unsuitable

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[2] Brit. Med. Jour., Aug. 1st, 1891.
[3] Croonian Lectures, 1892.

cases. The records of these surgeons in private practice, better where selection was the rule, yielded far better results, and a success of 90 to 95 per cent. was nearer their average. Personally, my experience during a practice of nearly thirty years, which has been guided largely by my association in work at the Ophthalmic Hospital for fourteen years with Mr. Macnamara and Drs. Cayley and Jones, has led me into selecting the operation for cataract usually performed by these surgeons combined and modified—that is, a von Graefe,—the sections being, however, purely corneal, and thus avoiding iridectomy in every possible case, and I may with gratification say that I have had results that equal those of my revered teachers. The operation which I have been accustomed to perform for many years past is preceded by preliminary antiseptic precautions. I wash my face and hands, and then cleanse the face, eyes, and eyebrows of the patient with cotton and a solution of boracic acid (one grain to an ounce of water), the lotion being freely put into both eyes while the patient is in bed. I now drop a freshly prepared 3 per cent. solution of cocaine into the eye to be operated on, which has already for two or three days been under the influence of atropine. The instruments are dipped in boracic lotion and then used. Special attention is paid to the knife, which is tested before operation as regards sharpness and polish. I use a stop-speculum. The section made by a Graefe's knife is corneal, and occupies nearly the upper third of the cornea. The left hand is used for the left eye and the right for the right. The section is completed by cutting directly through the cornea. It is so cut through that it allows the edges of the section to come directly together. I then take the curette and place it on the sclerotic at the lower part near the corneo-sclerotic junction and deliver the lens by pressure. I allow a little time to elapse, if necessary, for accumulation of aqueous humour to reveal any lenticular substance which may remain behind. The iris invariably gets into its place; if not, I set it by gentle manipulation or by allowing the rays of light to act upon it. Sometimes it may be that I have to take the aid of the curette to adjust the section and to replace the iris. I then drop in a four grain solution of atropine to put the iris at rest, and apply a pad and bandage to both eyes. I perform iridectomy, if the pupil has not responded sufficiently to atropine, or if the lens is hard and large, or if there is adhesion of the pupil, where the lens requires to be removed by a vectis or a curette, or if by accident the iris be injured, and when the patient is incapable of enduring the quiet indispensable to the prevention of prolapse of the iris. Concerning loss of vitreous in cataract operations, this accident was held for many years by operators in Great Britain and on the Continent as a calamity involving insecurity to aftervision in cataract operations. It is a remarkable fact that Mr. Charles Macnamara held and taught as far back as 1868 that loss of one-fourth of the vitreous was no bar to a perfect recovery of sight. His declaration on this matter was stoutly contested in London, but time has proved that Macnamara was right, and now our friends in Europe are reconciled to his views."

[Statistics followed with regard to loss of vitreous, showing that even when more than one quarter of this humour escaped the percentage of success was 77.]

"There is a remarkable augmentation of cures in recent times, due probably to a more extended knowledge, the selection of operations, and to antiseptics. But there is a regretable drawback that every ophthalmic surgeon in Bengal has to contend with—that is, the need of a practical surgical instrument maker to sharpen cataract knives, as all instruments have to be sent to England for repair. Reverting to the subject of augmented success in cataract operations, the recent experiences of the Calcutta Medical College Hospital, in which, undoubtedly, individuality as a feature conducing to success has played an important part together with modern antiseptics, we find the report of the Eye Hospital of Calcutta with a percentage of cures that has reached the high figure of 95·56 per cent., but 76·13 has been the average for the past six years. Surely, this is an achievement which reflects considerable credit on Professor R. C. Sanders, our present ophthalmic surgeon. In recent times the prevalence of diabetes in Bengal has added largely to the occurrence of cataract, and it is remarkable that these patients derive considerable benefit from a judiciously performed cataract operation. The latter stages of diabetes, which usually terminate in nephritic changes, afford abundant evidence of the great value of the ophthalmoscope as a diagnostic agent of nephritic retinitis. Bengal is the land of mendicants. It is no exaggeration to say that a million or more of the people of this rich and fertile province are beggars. This fact is of enormous significance and interest when it is found that over sixty per cent. of these helplessly poor fellow creatures are totally blind, and, further, that over 40 per cent. of these visionless objects owe their destruction to ophthalmia neonatorum. Total disregard of the simplest hygienic laws in the lying-in room, the absolutely careless neglect of cleanliness of the infant immediately after its birth, are ruefully responsible for more than half the blindness one sees in Bengal. Household therapeutics limits the treatment of sore eyes in infants to pencilling the eyelids with black sulphide of antimony or with butter and lamp-black (*kajul*), or washing them with milk and warm water, or *neem* infusion; and these ablutions are so faultily done as to allow the lids to ensack quantities of purulent matter, and thus the destructive and corrosive changes of the corneal structures go on till vision is hopelessly ruined. If only our *dhais*, or native midwives, could be trained sufficiently to regard the vaginal discharges as peculiarly prone to infect the eyes of their infant charges, how much the number of Indian mendicants could be reduced and how much of happiness could be added to the blighted lives of our fellow-creatures. For the treatment of ophthalmia neonatorum I have found the early application of a 2 per cent. solution of nitrate of silver as eye drops most beneficial. Of course, it is an eminently preventable disease, and if sufficient cleanliness be observed in washing out the vagina before birth, and in seeing to the eyes immediately after birth, it can with certainty be shorn of its ill-effects. As soon as the head of the child is born both eyes should be wiped with cotton wool before they are opened to prevent infection by any discharge that may be present, and the nurse should be instructed, when washing the child for the first time, to use different water for the eyes with a pledget of cotton wool. When this has been done one drop of a 2 per cent. solution of nitrate of silver should be dropped inside each of the eyes. Of course, while cleanliness is absolutely necessary in every case, it is only essential to guard the eyes of the infant by nitrate of silver solution as a collyrium in those cases in which there is a suspicion of impure vaginal discharges. Frequent cleansing of the eyes is a *sine quâ non* of treatment, and while antiseptic solutions of such reagents as boracic acid, perchloride of mercury, permanganate of potash, &c., play a helpful part as aids, the destruction of the morbid germs, which created the disease, is most effectually performed by nitrate of silver. Granular conjunctivitis is a very common affection among the poor, consisting, as it does, of the formation of granular tracheomatous bodies in the conjunctival connective tissue. I have found it extremely prevalent in Bengal. It is undoubtedly due to malhygienic conditions of life. Among the various forms of treatment I have found nothing to equal dusting the lids with tannic acid both morning and evening, then once a day, and later on every other day. In the meantime keep the eyes scrupulously clean by the frequent application of antiseptic drops, such as boracic acid and perchloride of mercury. Tannic acid sets up sufficient inflammatory changes to cause absorption of the neoplastic bodies. Sulphate of copper was much used in former days. We still apply the *lapis divinus* to granular lids. But I think tannic acid can better reliably take its place. The various reputed specifics of a decade ago, such as acetate of lead, quinine dusting, solution of perchloride of mercury, and strong solution of nitrate of silver, have all had their day; but sanitary measures, generally tonics, and tannic acid dusting, hold the highest place in affording relief and cure to this troublesome and painful disorder. Glaucoma is another commonly prevalent disorder in Bengal. Iridectomy is the sheet-anchor of cure of this most dreadful affection. In Bengal much difficulty is experienced in inducing sufferers from glaucoma to undergo the necessary surgical operation of iridectomy, and so recourse has long been had to various other forms of relieving intra-ocular tension by means of leeching and by ordinary antiphlogistics; but more recently the discovery of the great therapeutic value of eserine has placed in the hands of Indian practitioners a most accommodating and efficient aid. The use of eserine affords relief for some time, and by-and-bye the patient makes up his mind for an iridectomy. In many cases a fair field of vision is maintained by the use of eserine, while the further progress of the disease is cut short. In atrophy of the disc (a common ailment the use of eserine collyria and the subcutaneous injections of strychnine have afforded the best results. It is remarkable how prevalent this disorder is among excessive tobacco

smokers and in those who use ganja and alcohol. The rigorous enactments of the Bengal Education Code, and the high mental tension which arises out of the keen competition that marks the training and education of our youths of to-day, have resulted in a most deplorable augmentation of the errors of refraction and accommodation; and so we find boys and girls of twelve to sixteen years decorated with spectacles—a sight that would horrify our forefathers were they to return to their mundane sphere."

[In concluding his paper Professor Mukherji earnestly appealed for a more systematic and thorough training of students in Indian colleges in eye diseases, and paid a warm tribute of gratitude to England for the part she had taken in advancing Indian medical science.]

Medical News.

DR. WILLIAM SLIMON of Bow, E., has been placed by the Lord Chancellor upon the Commission of the Peace for the County of London.

FOOTBALL CASUALTIES.—During a recent match between the Notts County and Grimsby Town teams a player fractured his clavicle.—At Tipton, Staffs, a young man while playing a match sustained "internal injury," from which he died last week.

ON Friday, Jan. 25th, the governors of the Royal Victoria Hospital, Bournemouth, held their annual meeting in the Havergal Hall, the Earl of Malmesbury presiding. According to the report 4225 cases had been treated during the year, exceeding by 566 the number under treatment in 1893. The expenditure for the year had exceeded the income by £184 15*s.* 10*d.*

THE seventh annual meeting of the Brighton, Hove, and Preston Dental Hospital was held on Wednesday, Jan. 30th, at the institution, Alderman Dr. J. Ewart presiding. During the past year the admissions to the hospital had been 2993, anæsthetics being used in 324 cases. The chairman remarked that the hospital was still in a very flourishing condition, but regret was expressed at the small number of donations received from workmen's boxes, seeing that 50 per cent. of the patients were either workmen or members of workmen's families.

FOREIGN UNIVERSITY INTELLIGENCE.—*Berlin:* Drs. Goldscheider, Kroenig, Immanuel Munk, and Leopold Landau have been granted the title of Professor.—*Kazan:* Dr. Kotovshchikoff has been promoted to the Professorship of Clinical Therapeutics, in succession to the late Dr. Khomiakoff. Dr. Kazem-Beck has been appointed Extraordinary Professor of Medical Diagnosis.—*Kharkoff:* Dr. Anfimoff of Tomsk has been appointed to the chair of Neurology and Mental Diseases. Dr. Orshanski has been promoted to an Extraordinary Professorship of the same subjects.—*Paris:* Dr. G. Filomusi-Guelfi has been promoted to the Ordinary Professorship of Forensic Medicine. Dr. Fasola has been recognised as *privat-docent* in Experimental Physiology.

OBSTETRICAL SOCIETY OF LONDON.—The annual general meeting of the Obstetrical Society of London was held on Wednesday last, when the principal business was the election of officers for the ensuing year. The proceedings on these occasions are generally of a formal character, the list recommended by the council being usually adopted *en bloc*. This time, however, we are informed many Fellows of the Society were dissatisfied at not finding Dr. Cullingworth among those recommended for high office by the council, and it was known that at the meeting on Wednesday they would endeavour to give effect to their views. The result was that in a full meeting the list recommended by the council was adopted, with the exception that Dr. Cullingworth was elected to the post of Chairman of the Board for the Examination of Midwives. We append the complete list:—President: Francis Henry Champneys, M.A., M.D. Vice-Presidents: James Duncan, M.B., John H. Galton, M.D., Peter Horrocks, M.D., and Thomas Cargill Nesham, M.D. (Newcastle-on-Tyne). Treasurer: John Baptiste Potter, M.D. Chairman of the Board for the Examination of Midwives: C. J. Cullingworth, M.D. Hon. Secretaries: William Duncan, M.D., and W. Radford Dakin, M.D. Hon. Librarian: John Phillips, M.A., M.D.

WE learn with regret of the sudden death of Mr. Burroughs, of the firm of Messrs. Burroughs, Wellcome, and Co., from pneumonia, at Monte Carlo, on Wednesday last.

THE yearly meeting of the Harrogate Royal Bath Hospital and Rawson Convalescent Home was held at the hospital on Jan. 24th. The sixty-ninth annual report was presented and showed that upwards of 1000 patients had received benefit during the eight months in which the hospital and home were open for their reception. Of these patients 831 were treated in the Royal Bath Hospital, including cases of eczema, psoriasis, gout, rheumatism, and hepatic disease. Two deaths occurred—one from rupture of a bloodvessel and the other from cancer of the liver. The sulphur baths numbered 6457. Two hundred and two cases were treated in the Rawson Convalescent Home.

THE annual meeting of the Jenny Lind Infirmary for Sick Children was held on Jan. 30th at the Infirmary, Pottergate-street, Norwich, the Mayor of Norwich (Colonel Bignold) presiding. An influential company assembled, including the High Sheriff of Norfolk (Mr. J. H. Gurney), the Deputy Mayor (Sir Peter Eade, M.D.) and Lady Eade, Sir Frederic Bateman, M.D., and the Dean of Norwich (Dr. Lefroy). The report showed that the total number of patients last year was 1333, of whom 198 were in-patients. The financial position was satisfactory, the income having been £430 in excess of the expenditure. A medallion bust of the late Madame Jenny Lind was presented to the institution by Mr. Goldschmidt.

THE METROPOLITAN HOSPITAL SUNDAY FUND.—The Right Hon. the Lord Mayor, Sir Joseph Renals, Bart., presided at a meeting of the Council of the Metropolitan Hospital Sunday Fund on Thursday last, when the following committees were nominated and re-elected:—Committee of Distribution: Sir Savile Crossley, Bart., Sir David Evans, K.C.M.G., Mr. H. Cosmo O. Bonsor, M.P., Captain James Cundy, Mr. Herman Hoskier, Mr. F. H. Norman, Dr. W. Sedgwick Saunders, and Mr. Alfred Willett, F.R.C.S. General Purposes Committee: The Chief Rabbi, the Ven. Archdeacon Sinclair, the Rev. Canon Fleming, the Rev. Canon Ingram, the Rev. Donald McLeod the Rev. J. Kennedy, the Rev. J. H. Rigg, the Rev. Dr. Marks, the Rev. W. H. Harwood, the Rev. J. F. Kitto, M.A., the Right Hon. Lord Sandhurst, Colonel Francis Haygarth, Mr. Herbert Brooks, Mr. Henry C. Burdett, Mr. F. C. Carr-Gomm, Mr. A. L. Cohen, Dr. J. G. Glover, Dr. C. J. Hare, Mr. Albert G. Sandeman, Dr. W. Sedgwick Saunders, and Mr. Wakley, F.R.C.S. Sir Edmund Hay Currie and Mr. Richard B. Martin, M.P., the honorary secretaries, were re-elected, as was also Mr. H. N. Custance, the secretary to the Fund. Messrs. W. H. Pannell and Co. were appointed auditors for the ensuing year, and the usual courtesies to the Lord Mayor as chairman terminated the proceedings.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

THE fourth session of the twenty-fifth Parliament of the United Kingdom opened on Tuesday, Feb. 5th.

Alterations in the House of Commons.

During the recess extensive and important alterations and improvements have been made in the House of Commons and the buildings adjoining. They are in most part based on recommendations adopted by a Select Committee which sat last session, although they do not follow these recommendations rigidly. Very little has been done in the legislative chamber itself. Some alteration has been made in the arrangements for strangers, and in the Press Gallery the old door has been taken away and two new ones substituted, a change which, it is hoped, will add materially to the convenience of those who use this part of the House. For a long time the heating and ventilation of the chamber have been subjects of complaint by members, but on the present occasion nothing has been done in this connexion. A further report, however, has been made by Mr. James Keith, in which serious defects are pointed out and several suggestions put forward. With this report before them, the authorities of the House should at least be able to do something to improve matters. In the buildings adjoining the legislative chamber several very substantial changes have been made. For instance, the kitchen where the meals of members are cooked has been enlarged and its apparatus supplemented. A magnificent grill has been fitted up. In another part of the building four commodious bath-rooms have been provided, and in their neighbourhood

a hair-dressing room, where members will be able to have a shampoo and "make their toilet." Then there is a new dressing-room with six curtained cubicles, and the servants, who are a very large body and who hitherto have had no special accommodation allotted them for their meals, have been provided with a very adequate Servants' Hall. Considerable addition has also been made to the smoking-room accommodation for members of the House and the Press Gallery. The whole work has cost between £14,000 and £15,000.

Old Age Pensions.

Mr. Henry Broadhurst has given notice that he will seek a date for the discussion of the following motion: "That in the opinion of this House all persons of sixty years of age and upwards shall be entitled to a pension on application to the local authority of the district in which the applicant is resident."

Food and Drugs Adulteration.

Steps will be taken as soon as possible to appoint a select committee to resume the inquiry started late last session into this subject. Endeavour will, of course, be made to enlist the services of the members who served on last year's committee.

The Opium Commission.

Mr. Bartley has given notice that he will ask the House to express the opinion that no part of the cost of the Royal Commission on Opium should be defrayed by the natives of India.

HOUSE OF COMMONS.

THURSDAY, FEB. 7TH.

Electric Light Accidents.

Mr. Howard questioned the President of the Board of Trade with reference to recent electric light accidents in London, and Mr. Bryce, in the course of his reply, said that the Board of Trade was earnestly pressing upon the electric lighting companies the necessity of taking proper precautions to prevent accidents.

Tuberculosis Commission.

In reply to a number of questions, Mr. Shaw-Lefevre said the Government greatly regretted the delay that had occurred in connexion with the inquiry of this Commission. During the recess he had been in communication with the chairman on the subject, and he fully realised how much importance was attached to the early publication of the report. When the Commission met at the end of the present month or the beginning of March, a draft report would be before them for their consideration.

The Consolidation of the Poor-laws.

Mr. Shaw-Lefevre, replying to Mr. Howell, said he was afraid the engagements of the Government would quite prevent their introducing a Bill to consolidate the Poor-laws during the present session.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, for publication in the next number.

BANCROFT, PETER, M.B., Ch.M. Syd., has been appointed City Health Officer of Brisbane, Queensland.

BARNETT, L. E., M.B., C.M. Edin., F.R.C.S. Eng., has been appointed Lecturer on Surgery to the Otago University Medical School, Dunedin, New Zealand, vice Wm. Brown.

BELL, GEO. L., M.B., Ch. B. Melb., M.R.C.S. Eng., L.R.C.P., has been appointed Government Medical Officer and Vaccinator for the district of Camden, New South Wales.

BRIGHT, J. A., M.R.C.S., has been appointed Medical Officer to the Hearts of Oak Friendly Society, Glastonbury.

BROOKS, CHAS., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Gerrard's Cross Sanitary District of the Eton Union.

BUTLER, ALBAN, L.R.C.P., L.R.C.S., L.M. Irel., has been appointed Medical Officer for the Walsham-le-Willows Sanitary District of the Stow Union, vice McNaught resigned.

CAMERON, Hugh F., M.B., C.M. Aberd., has been appointed Parochial Medical Officer and Vaccinator for Rosskeen, Alness and Kilmuir, vice Sutherland.

COOPER, W., L.R.C.P. Lond., M.R.C.S., has been appointed Honorary Consulting Surgeon to the Barnstaple and North Devon Dispensary.

DAVIDSON, PETER, M.A., M.B., C.M., has been reappointed Honorary Physician to the Liverpool Infirmary for Children.

DOBIE, H. E. N., L.R.C.S. Edin., has been appointed Resident Medical Officer for East Kimberley, Public Vaccinator for the Urban and Suburban Districts of Wyndham and Rural District of East Kimberley, also Quarantine Officer for the port of Wyndham, Western Australia.

FIELDER, SYDNEY, L.K.Q.C.P. Irel., L.S.A. Lond., has been appointed Government Medical Officer and Vaccinator for the district of Brisbane Water, New South Wales.

GOING, JOSEPH A., M.R.C.S. Eng., L.S.A., has been appointed a Public Vaccinator for the district of Katakawa and Chalawai, New Zealand.

HALLIWELL, J., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer to the Winchcombe Cottage Hospital.

HICKMAN, J. E., has been appointed Resident Medical Officer to Guest Hospital, Dudley, vice P. Templeton, resigned.

HODGSON, J. W., M.D., C.M. Aberd., M.R.C.S., has been appointed Consulting Physician to the Exmouth Dispensary.

HOWSE, ALFRED O., L.R.C.P. Lond., M.R.C.S., has been appointed Government Medical Officer and Vaccinator for the District of Wingham, New South Wales.

HUTTON, E. R., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Second Tottenham Sanitary District of the Edmonton Union.

HUXTABLE, R. B., M.B., C.M. Edin., has been appointed Assistant Resident Medical Officer at the Charters Towers Hospital, Queensland.

JACOB, E. L., B.A. Lond., M.R.C.S., has been appointed Medical Officer to the Weybridge and Walton Urban District Councils respectively.

JOHNSTON, JOHN, M.D., M.Ch. Edin. Univ., L.S.A. Lond., has been appointed Public Vaccinator for Great Bolton District, vice Walter Morris, resigned.

KELLAND, JAMES, M.B., C.M., L.R.C.P., L.R.C.S. Edin., has been appointed Honorary Surgeon to the Salisbury Infirmary.

KIDD, HUGH C., M.B. Lond., L.R.C.P., F.R.C.S., has been appointed Honorary Medical Officer to the Cottage Hospital, Bromsgrove.

LOCKING, B., L.R.C.P. Lond., M.R.C.S., has been appointed Honorary Surgeon to the Napier Rifle Volunteers, New Zealand.

MASSON, GEO. B., L.R.C.P., L.M., L.R.C.S. Edin., has been reappointed Medical Officer for the fifth sanitary district of the Downham Union.

NEWELL, B. A., M.B. Syd., M.Ch., has been appointed Government Medical Officer and Vaccinator for the district of Walgett, New South Wales.

OWEN, ARTHUR DEAKER, M.R.C.S., L.R.C.P. Lond., L.S.A., has been appointed Divisional Surgeon to the Metropolitan Police, vice Vaughan Holberton, resigned.

PAICH, H. H. L., L.R.C.P. Lond., M.R.C.S., has been appointed Assistant House Surgeon to the Devon and Exeter Hospital.

PEGLER, L. HEMINGTON, M.D., M.R.C.S., has been appointed Assistant-Registrar to the Central London Throat and Ear Hospital.

ROBERTSON, J. G., M.D., C.M. Edin., has been appointed Medical Officer for the Third Sanitary District of the Royston Union.

SKINNER, G. H., L.R.C.P. Lond., M.R.C.S., has been appointed Surgeon, with the rank of Captain, to the Victorian Mounted Rifles, Victoria, Australia.

STEIN, ROBERT H., B.A., M.B. Lond., has been appointed House Physician to the Brompton Hospital for Consumption and Diseases of the Chest.

SWAN, R. JOCELYN, M.R.C.S. Eng., L.S.A. Lond., has been appointed Consulting Surgeon to the London Tramways Company, vice Geo. Millson, resigned.

WHEATLEY, A. J., M.B., C.M. Edin., has been appointed Deputy Medical Officer for the Mersea and Peldon Sanitary District of the Lexden and Winstree Union.

WRIGHT, FRANCIS G., L.R.C.P., L.R.C.S. Edin., has been appointed Resident Medical Officer for West Kimberley, Public Vaccinator for the Urban and Suburban Districts of Derby and Rural District of West Kimberley; also Quarantine Officer for the Port of Derby, Western Australia.

WRIGHT, JOSEPH FARRALL, L.R.C.P. Lond., M.R.C.S. Eng., has been appointed Medical Officer to the Western Division of Great Bolton, vice Walter Morris, resigned.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

CENTRAL LONDON OPHTHALMIC HOSPITAL, 238A, Gray's-inn-road, W.C.—House Surgeon. Rooms, coals, and light provided.

DERBYSHIRE ROYAL INFIRMARY, Derby.—One Honorary Physician One Honorary Surgeon. One Honorary Consulting Dental Surgeon.

GENERAL INFIRMARY AT LEEDS.—Resident Casualty Officer. Salary £100 a year, with board, lodging, and washing.

KENT AND CANTERBURY HOSPITAL.—Surgeon.

RADCLIFFE INFIRMARY, Oxford.—House Surgeon for six months. Salary at the rate of £80 a year, with board, lodging, and washing.

STAFFORDSHIRE GENERAL INFIRMARY, Stafford.—Assistant House Surgeon; board, lodging, washing, &c., provided.

THROAT HOSPITAL, Golden-square, London—Clinical Assistants.

TOTTENHAM AND EDMONTON GENERAL DISPENSARY.—Vacancy on the Medical Staff. Applications to S. Hedley, Esq., Trafalgar House, Tottenham.

WESTMINSTER HOSPITAL, Broad Sanctuary, S.W.—Fourth Assistant Physician.

Births, Marriages, and Deaths.

BIRTHS.

BROOK.—On Jan. 26th, at James-street, Lincoln, the wife of W. H. Brook, M.D. Lond., F.R.C.S., of twin sons.

EVANS.—On Jan. 28th, at Denmark Lodge, Clapham-common, the wife of Lewis Evans, L.R.C.P. Edin., L.F.P.S. Glasg., of a daughter.

LEWIS.—On Feb. 1st, at Farleigh, Pontypridd, the wife of B. M. Lewis, M.R.C.S., of a son.

MARRIAGES.

BEGBIE—REYNOLDS.—On Feb. 6th, at the Cathedral, Bombay, India, Francis Warburton Begbie, Surgeon-Captain A.M.S., son of the late James Warburton Begbie, LL.D., of Edinburgh, to Catharine Mary, the eldest daughter of Walter Reynolds, J.P., of The Grove, Highgate, Middlesex. (By telegram.)

DEATHS.

CHAPMAN.—On Feb. 2nd, at Willow Lodge, West Norwood, John Chapman, M.R.C.S., L.S.A., aged 77.

MASON.—On Jan. 13th, at Beacon House, Palnswick, Gloucestershire, Joseph Wood Mason, M.D., aged 74.

N.B.—A fee of 5s. is charged for the Insertion of Notices of Births, Marriages, and Deaths.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY.—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (1 P.M.), St. Mark's (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynecological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.).

TUESDAY.—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Guy's (1.30 P.M.), St. Thomas's (3.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1.30 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Gt. Northern Central (2.30 P.M.).

WEDNESDAY.—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (2.30 P.M.), Gt. Ormond-street (9.30 A.M.).

THURSDAY.—St. Bartholomew's (1.30) P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (2 P.M.), Soho-square (2 P.M.), North West London (2 P.M.).

FRIDAY.—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.).

SATURDAY.—Royal Free (9 A.M. and 2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), University College (9.15 A.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), Cancer (2 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY.—MEDICAL SOCIETY OF LONDON.—8.30 P.M. Clinical Evening. Dr. L. Guthrie: Case of Unusual Mal-development of Skull unassociated with Cerebral Symptoms.—Mr. Swinford Edwards: Some cases after High Excision of the Rectum by Kraske's Method.—Mr. Buckston Browne: Case of a Cork in the Adult Male Bladder.—Dr. Outterson Wood and Mr. E. Cotterell: Two cases of Right Hemiplegia with Epilepsy treated by Trephining.—Mr. H. Allingham: (1) Case of Pyloroplasty; (2) Case of Enteroplasty; (3) Case of Gastro-enterostomy.—Mr. C. B. Keetley: Case of Rare Deformity of the Toes.—Dr. W. S. Colman: Case of Pseudo-hypertrophic Paralysis with Knee-jerks preserved.

TUESDAY.—ROYAL MEDICAL AND CHIRURGICAL SOCIETY (20, Hanover-square, W.).—Dr. Frederick Taylor: The Causation of Ægophony.

WEDNESDAY.—LARYNGOLOGICAL SOCIETY OF LONDON (20, Hanover-square, W.).—8 P.M. The President (Dr. Felix Semon): A case for Diagnosis (? Malignant Disease, Syphilis, or Tuberculosis of the Larynx).—Dr. A. A. Kanthack: Pathological Specimens (1) Adenoid Vegetations; (2) Perforation of the Septum Nasi.—Dr. Scanes Spicer: A case of Chronic Stenosis of the Anterior Nares with Laryngitis.—Mr. Charters J. Symonds: (1) A case of Paralysis of Left Vocal Cord; (2) a case of Paralysis of Left Vocal Cord after Injury; (3) the case of Pachydermia Laryngis previously shown.—Dr. Herbert Tilley: A case of Pachydermia of Inter-arytenoid Fold with Fissure (inter-arytænoid), Laryngitis Sicca, and Pharyngitis Sicca.

ANATOMICAL SOCIETY OF GREAT BRITAIN AND IRELAND (St. Bartholomew's Hospital).—4 P.M. Specimens by Dr. Hubert Higgins, Mr. F. G. Parsons, Prof. Wardrop Griffith, and Prof. D. J. Cunningham. Papers:—Prof. D. J. Cunningham: Pithecanthropus Erectus—the Man-like Transitional Form of Dr. Eugene Dubois.—Prof. Sherrington: Remarks on the Distribution of the Sixth Lumbar Nerve in Macacus Rhesus.

HUNTERIAN SOCIETY (London Institution, Finsbury-circus, E.C.).—8 P.M. Annual General Meeting and Election of Officers. 8.30 P.M. Dr. Patrick Manson: The Malaria Parasite (Demonstration).

NORTH-WEST LONDON CLINICAL SOCIETY.—8.30 P.M. General Meeting for Election of Officers, &c.: Clinical Demonstration.

THURSDAY.—BRITISH GYNÆCOLOGICAL SOCIETY.—The President's Address. Dr. Macnaughton Jones: Specimen of Intra-uterine Fibroid.

NORTH LONDON MEDICAL AND CHIRURGICAL SOCIETY (Great Northern Central Hospital, Holloway).—8.30 P.M. Clinical Evening. Cases will be shown by Dr. E. S. Tait, Dr. Scott, Dr. Galloway, Mr. Merton, and others.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY.—LONDON POST-GRADUATE COURSE.—Royal London Ophthalmic Hospital, Moorfields, 1 P.M., Mr. W. Lang: Lacrymal Affections.—London Throat Hospital, Gt. Portland-st., W., 8 P.M., Dr. Edward Law: Examination of the Throat and Nose.

SOCIETY OF ARTS.—4 P.M. Mr. Alan S. Cole: Means for Verifying Ancient Embroideries and Laces. (Cantor Lecture.)

TUESDAY.—LONDON POST-GRADUATE COURSE.—Bethlem Hospital, 2 P.M., Dr. Craig: Hysterical and Delirious Mania.

ROYAL INSTITUTION.—3 P.M. Prof. Charles Stewart: The Internal Framework of Plants and Animals. (V.)

LONDON SKIN HOSPITAL.—8 P.M. Mr. Jas. Startin: On some Uncommon Affections of the Skin.

ROYAL BRITISH NURSES' ASSOCIATION.—8 P.M. Dr. W. S. Colman: The Cerebral Hemispheres and General Symptoms of Brain Disease.

WEDNESDAY.—NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Bloomsbury).—3 P.M. Lecture by Dr. Gowers.

LONDON POST-GRADUATE COURSE.—Royal London Ophthalmic Hospital, Moorfields, 8 P.M., Mr. A. S. Morton: Retinal Affections.—Hospital for Skin Diseases, Blackfriars, 1 P.M., Dr. Payne: Seborrhœa.

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN (Leicester-sq., W.C.).—5 P.M. Dr. Morgan Dockrell: Keratosis.

WEST LONDON HOSPITAL (Hammersmith-rd., W.).—5 P.M. Dr. Donald Hood: Angina Pectoris.

SOCIETY OF ARTS.—8 P.M. Mr. W. M. Acworth: Light Railways.

THURSDAY.—ROYAL INSTITUTION.—3 P.M. Mr. L. Fletcher: Meteorites.

LONDON POST-GRADUATE COURSE.—Hospital for Sick Children, Gt. Ormond-st., 3.30 P.M., Dr. Thomas Barlow: Rickets.—National Hospital for the Paralysed, Bloomsbury, 2 P.M., Dr. Beevor: Cerebral Localisation.—Central London Sick Asylum, Cleveland-street, W., 5.30 P.M., Mr. Jonathan Hutchinson: Cases in the Wards.

SOCIETY OF ARTS (Imperial Institute).—4.30 P.M. Mr. C. Krishna Menon: Village Communities in Southern India.

SOUTH WEST LONDON MEDICAL SOCIETY (Suffolk Hotel, East Putney).—8.30 P.M. Dr. Cullingworth: Demonstration of Tube Cases (illustrated with Magic Lantern Slides).

FRIDAY.—ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN (Leicester-square, W.C.).—11 to 1 P.M. Dr. Barratt: The Bacteriology of Skin Disease.

LONDON POST-GRADUATE COURSE.—Bacteriological Laboratory, King's College, 3 to 5 P.M., Prof. Crookshank: Examination of Air, Soil, and Water.

HUNTERIAN SOCIETY.—7 P.M. Dinner at First Avenue Hotel.

ROYAL INSTITUTION.—9 P.M. Mr. Clinton T. Dent: Mountaineering.

SATURDAY.—ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN (Leicester-square W.C.).—11 to 1 P.M. Dr. Barratt: The Bacteriology of Skin Disease. 5 P.M. Dr. M. Dockrell: Dermatitis Exfoliativa and Herpetiformis.

LONDON POST-GRADUATE COURSE.—Bethlem Hospital, 11 A.M., Dr. Percy Smith: Acute Mania.

ROYAL INSTITUTION.—3 P.M. Sir Alexander Campbell Mackenzie: English Country Songs (with Musical Illustrations).

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Feb. 7th, 1895.

Date.		Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Dry Bulb	Wet Bulb	Solar Radia in Vacuo	Maximum Temp Shade.	Min. Temp	Rainfall.	Remarks at 8.30 A.M.
Feb.	1	30·03	N.E.	28	Fzn.	39	35	25	0·14	Overcast
,,	2	29·91	N.	35	34	38	37	28	0·07	Overcast
,,	3	30·00	N.E.	32	Fzn.	39	35	24	...	Overcast
,,	4	30·17	N.E.	35	34	49	36	30	...	Overcast
,,	5	30·09	E.	25	Fzn.	44	31	24	0·03	Overcast
,,	6	29·83	N.E.	19	Fzn.	41	25	16	...	Snowing
,,	7	29·85	S.E.	19	Fzn.	42	25	17	...	Overcast

Notes, Short Comments & Answers to Correspondents.

EDITORIAL NOTICE.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET should be addressed "To the Manager."

We cannot undertake to return MSS. not used.

MANAGER'S NOTICE.

THE INDEX TO THE LANCET.

THE Index for the last half-year was published in our issue of Dec. 29 h, which completed the second volume of the year 1894. Those of our subscribers who may wish to be supplied with loose copies can obtain the same (without extra charge) on making application to the Manager.

"DETERIORATION OF CORKS."

We have received several letters from medical men the gist of which is that our previous correspondent on this subject is badly served, and that corks as good as the corks of old are still in the market.

"ON THE TREATMENT OF GLEET BY THE URETHROSCOPE.

To the Editors of THE LANCET.

SIRS,—My attention has been called to a letter under the above heading in your issue of Jan. 12th. I have hesitated making an explanation, as the letter, like most others of its class, bears an anonymous signature. The copy of the *Medical Week* which "M.D." objects to was sent to me by the author of the article in question, who

is a personal friend of mine. I am entirely to blame for its appearance in the Isthmian Club, where I left it accidentally. The blue pencilling was for my benefit. I should have thought that the name which headed the article, bearing as it did the letters "F.R.C.S.," would have been sufficient to have protected its author against the suggestion of advertisement amongst members of a club "which are chiefly young men." "M.D." would have shown more discretion and good taste if he had placed his grievance in the hands of the secretary of the Isthmian Club, who is thoroughly well able to protect its interests.

I am, Sirs, yours faithfully,
Isthmian Club, Piccadilly, W., Feb. 1st, 1895. STANLEY DAVIES.

THE EXHIBITION OF HYPNOTISED SUBJECTS.

To the Editors of THE LANCET.

SIRS,—On Friday the 1st inst. I attended with others as a spectator to witness a hypnotic *séance* at the Royal Aquarium. The two medical men who had agreed to watch the proceedings being absent in consequence of a postponement of the time, Mr. Ritchie, the chairman of the board of directors, seeing me in the room, asked me to examine the man, who was lying in a sort of coffin. I found a fairish strong man to all outward appearances, the pulse weak but regular, and large dilated pupils. In about one minute and a half Mr. Morritt placed him in a complete trance. The pulse then got much stronger, from 76 to 95, whilst the pupils of the eyes became much contracted, the breathing becoming purely abdominal. The *séance* commenced at 7.30 P.M. He continued quite unconscious throughout; but on Saturday at 11 P.M., in consequence of a threatened failure of his heart, the beating of which was scarcely perceptible, whilst the temperature had gone down from 97·2 F., which it was in the morning, to 95·4°, together with a cyanotic condition of the face, induced Dr. Trevor, who was in attendance, and myself to consider that a continuance of the proceedings with that subject was an unwise one. He was at once brought to consciousness, and our opinion was justified by finding that he had a weak, dilated heart and swelling in the ankles. The original man on whom this experiment was to be tried failing to appear at the last moment, Nolan was put in his place without any sort of preparation as regards diet. He is none the worse beyond feeling very thirsty and a tingling in the feet. His insensibility was absolute throughout the thirty hours.

I am, Sirs, your obedient servant,
Devonshire-street, Feb. 5th, 1895. FORBES WINSLOW.

To the Editors of THE LANCET.

SIRS,—Will you kindly allow me space to protest most strongly against the patronage and coöperation of medical practitioners in the placing of a man under hypnotic unconsciousness as a show at the Royal Aquarium? In some other countries such a public exhibition would have been unlawful, and I had hoped that even the medical advocates of hypnotism would have condemned such a performance in a place of public resort and amusement.

I am, Sirs, yours obediently,
Grove-road, N.W., Feb. 5th, 1895. NORMAN KERR, M.D.

CORK SOCIETIES' MEDICAL OFFICERS' INDEMNITY FUND.

Continued List.

Mr. J. G. Curtis (Cork) ...	£20	0	0	Mr. T. Callaghan (Cork)	£5	0	0
Dr. A. Sandford (Cork) ...	20	0	0	Dr. J. Ward Cousins, (Portsmouth)	2	2	0
Mr. R. Byrne (Cork) ...	2	2	0	Dr. W. Edmunds (Lond.)	1	1	0
Dr. P. O'Brien (Cork) ...	2	2	0	Dr. A. Finegan (Mullingar)	1	1	0
Dr. T. J. Murphy (Cork)	2	2	0	Dr. Scanlan (Cork)	1	1	0
Surg.-Capt. Crooke Lawless, A.M.S. (Dublin)...	2	2	0				

D. D. DONOVAN, Hon. Treasurer.

M. B.—Our correspondent's is a very legitimate complaint, and we hope to be able to refer to it more fully at an early opportunity.

Dr. J. B. Hellier.—The communication is marked for early insertion.

Enquirer.—Yes.

A QUERY.

To the Editors of THE LANCET.

SIRS,—Can any of your readers inform me of a suitable home or school at reasonable terms for a boy of about fourteen who is deficient in intellect? So far as I have been able to ascertain there is no choice between giving £70 or £80 per annum and the parish schools at Dareuth. My patient might be able to afford £35 to £40 per annum, but not more. I am, Sirs, yours faithfully,
Feb. 6th, 1895. J. P. S.

WANTED, HISTOLOGICAL SLIDES.

To the Editors of THE LANCET.

SIRS,—I shall be very much obliged if any of your readers can tell me where I can obtain histological slides (preparations) ready put up for the microscope, as I have not time to prepare them myself and my own old school ones have more or less gone wrong?—Yours faithfully,
Jan. 30th, 1895. MEMBER.

QUALIFIED DISPENSERS.

To the Editors of THE LANCET.

SIRS,—Be pleased to inform me as to any other bodies besides the Apothecaries' Hall who grant certificates qualifying dispensers.

I am, Sirs, yours faithfully,
Feb. 1st, 1894. CHEMICUS.

*** The Pharmaceutical Society grants certificates to dispensing chemists to act as such. This is the only legal qualification in England and Scotland.—ED. L.

RICHARDSON'S MEDICAL ASSISTANTS' AGREEMENT FOR SERVICES.

THIS is a form of agreement which principals may find useful in engaging assistants. It is very explicit. It can be obtained from Messrs. Richardson Bros. and Co., Medical Agents, Liverpool.

A Twenty Years' Subscriber.—Certainly so. He could put nothing on his plate more proper or to the point.

Dr. E. Robinson.—Our correspondent's course appears to us to have been perfectly correct.

BACTERIA IN BREAD.

To the Editors of THE LANCET.

SIRS,—Please allow an American physician (now travelling in Europe) to state in your columns that attention was called to the subject of bacteria in bread as early as 1882 in a paper read before the Philosophical Society of Great Britain upon the relations of "Yeast to Man." This paper was written upon invitation and forwarded to the society by Dr. Ephraim Cutter, now of New York, a graduate of the Harvard University Medical School, in 1856. It was profusely illustrated by most excellent micro-photographs and drawings executed by an American artist, and displayed bacteria in common bread, pilot bread, and pumper-nickel, the latter being richest of all in bacteria. As this subject has been recently revived by communications to medical societies and articles in THE LANCET and other journals, both in England and America, it would seem an act of justice to acknowledge the work of a pioneer in this important department. Yours truly,
Gibraltar, Jan. 12th, 1895. CLASSMATE.

THE QUALIFIED ASSISTANT AND THE FEES FOR NOTIFICATION.

To the Editors of THE LANCET.

SIRS,—I should like to know whether a qualified assistant is entitled to claim the fees for notifications of infectious diseases sent to the medical officer of health, or whether the principal is entitled as employer to the fees for notifications notified by his assistant.

I am, Sirs, yours truly,
Feb. 4th, 1895. INQUIRER.

*** The Infectious Disease (Notification) Act knows nothing of principals or qualified assistants. The medical practitioner "called in" to the patient is bound to send in the notification certificate, whether he is the principal or the assistant, and the local authority is bound to pay the fee to the medical practitioner "for each certificate duly sent *by him*." The qualified assistant in notifying infectious disease, as in all his other duties, is acting for his principal. Apart from some special arrangement he is not entitled to the notification fees.—ED. L.

"WANTED, A LANTERN AND SLIDES."

To the Editors of THE LANCET.

SIRS,—"Subscriber" would find what he wants in the way of physiological lantern slides of a popular character in a series called "The Human Body, or the House I Live in," by Furneaux, to be obtained of any optician dealing in lantern slides, from whom he could also obtain lanterns on hire. I am, Sirs, yours truly,
Richmond Hill, Feb. 5th, 1895. G. E. SHUTTLEWORTH.

To the Editors of THE LANCET.

SIRS,—"Subscriber" will get all he requires, and of the very best, at Messrs. Newton and Co., 3, Fleet-street, Temple Bar, E.C. Sets of slides copied from physiological works may be obtained also from many places, as Mr. Luscombe Toms, 73, Queen Victoria-street, E.C.; Mr. Walter Tyler, 48, Waterloo Bridge-road, S.E., and others, from whom also lanterns and fittings can be hired.—I am, Sirs, yours faithfully,
Feb. 4th, 1895. J. G.

INSURANCE AND CARDIAC MURMURS.

To the Editors of THE LANCET.

SIRS,—Is there any circumstance in which a medical examiner for insurance would be justified in recommending an insurance company to accept a person suffering from a cardiac murmur?—Yours truly,
Feb. 4th, 1895. BAYNHAM.

Mr William Horne.—We never recommend practitioners, treatment, or particular hospitals.

Mr. A. Thornhill Greenhill.—The post alluded to is not vacant.

Dr. W. Sampter is thanked for his communication.

ERRATUM.—In a review of the "Indian Manual of Hygiene," published in our issue of the 12th ult., we omitted to mention that the London agents for the book are Messrs. H. K. Lewis of Gower-street.

During the week marked copies of the following newspapers have been received:—*Midland Herald, Sevenoaks Chronicle, Arbroath Guide, Dundee Advertiser, South Wales Argus, Million, Sunday Chronicle, Alnwick Gazette, Sussex Daily News, Midland Evening News, Birmingham Post, Jewish World, Truth, Walsall Observer, Umpire, Australasian Medical Gazette, Bristol Mercury, Times of India, Folkestone Express, Isle of Man Times, Limerick Chronicle, Manchester Guardian, Bedfordshire Times, East Morning News, Family Doctor, Hereford Times, Kensington Society, Loughborough Examiner, Glasgow Evening Times, Scotsman, Banffshire Journal, Elgin Courant, Montgomery County Times, Public Health, Kentish Express, Sunday Times, Ayr Advertiser, Express and Star, Citizen, Warwick Times, Essex Telegraph, Kentish Press, Manchester Evening News, Western Daily Mercury, Wallasey Chronicle, &c., &c.*

Communications, Letters &c. have been received from—

A.—Mr. C. E. Ady, Lond.; Aylesbury Union, Clerk of.

B.—Dr. A. G. Bateman, Lond.; Dr. R. Boxall, Lond.; Dr. R. Beveridge, Leith; Mr. L. A. Bidwell, Lond.; Mr. S. Bennett, Lond.; Mr. S. H. Benson, Lond.; Mr. W. F. Brook, Swansea; Mr. W. M. Beaumont, Bath; Mr. C. Broyer, Carlton; Mr. C. A. G. Browne, Lond.; Mr. C. Birchall, Liverpool; Mons. O. Berthier, Paris; Messrs. F. B. Benger and Co., Manchester; Messrs. Burgoyne, Burbidges, and Co., Lond.; Messrs. Brady and Martin, Newcastle-on-Tyne; Messrs. Blackie and Son, Glasgow; Barth'sche Buchhandlung, Aachen.

C.—Dr. H. Critchley, Lond.; Dr. H. Corby, Cork; Dr. J. H. Collier, Sheffield; Mr. E. Collins, Sawbridgeworth; Mr. W. B. Culling, Lond.; Mr. C. Coventry, Lond.; Mr. A. Clarke, Lond.; Mr. E. R. Coffey, Farnham; Mr. F. Cotton, Lond.; Messrs. T. Christy and Co., Lond.; Messrs. Cassell and Co., Lond.; Charity Organisation Soc., Lond., Sec. of; Chemicus.

D.—Dr. J. H. Dewhurst, Chipping Campden; Dr. G. W. Davis, Sidcup; Mr. J. F. D'Abreu, Handsworth; Messrs. Downier and Co., Lond.; Messrs. W. Dawson and Sons, Lond.; Dermatos Soap Co., Lond.

E.—Enquirer.

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H.—Dr. W. M. Hutton, Edinburgh; Dr. J. Holmes, Whitefield; Dr. A. Hamilton, Windermere; Dr. L. Hill, Lond.; Surg.-Capt. M. L. Hughes, Malta; Mr. F. Harper, Lond.; Mr. J. Heywood, Manchester; Mr. F. A. Heslop, Blackpool; Mr. H. W. Hart, Catheart, Cape Colony; Mr. F. T. Hanley, Lond.; Mr. J. H. Haywood, Nottingham; Mrs. H. M. Hunt, Exmouth; Messrs. Hockin, Wilson and Co., Lond.; Hope, Lond.; Honor, Lond.

I.—Messrs. J. G. Ingram and Son, Lond.; Messrs. Isaacs and Co., Lond.

J.—Dr. J. Hughlings Jackson, Lond.; Mr. F. B. Jessett, Lond.; Dr. J. H. Jackson, Horwich; Dr. Kertesz Jozsef, Budapest; Messrs. Joshua Bros., Lond.

K.—Dr. Norman Kerr, Lond.; Dr. S. Kontoleon, Piraeus; Messrs. Kilner Bros., Lond.; Messrs. Keith and Co., Edinburgh; K. M., Lond.

L.—Dr. J. F. Little, Lond.; Surg.-Major A. W. D. Leahy, Calcutta; Mr. C. H. Leet, Liverpool; Mr. L. A. Lawrence, Lond.; Mr. S. Lodge, Bradford; Mr. T. Laffan, Cashel; Mr. P. T. Lunn, Blakeney; Messrs. Loescher and Co., Rome; Leeds Gen. Infy., Sec. of; Leeds Hosp. for Women and Children, Sec. of.

M.—Dr. W. J. Morton, New York; Dr. J. M. H. Martin, Blackburn; Dr. J. Murray, Malvern; Dr. J. G. McNaught, Curragh Camp; Mr. H. J. Marston, Lond.; Mr. W. Maguire, Lond.; Mr. J. H. Marsh, Macclesfield; Mr. R. Mayman, Oxford; Mr. C. Matthews, Farnham; Mr. J. Moffat, Whitehaven; Messrs. Maple and Co., Lond.; Metrop. Hosp. Sunday Fund, Sec. of; M., Lond.; Medicus, Lond.

N.—Mr. A. Neve, Kashmir.

P.—Dr. F. Page, Newcastle-on-Tyne; Dr. Peacock, Lond.; Mr. Y. J. Pentland, Edinburgh; Messrs. Pidcock and Sons, Eastbourne; Physician, Lond.

R.—Mr. E. Ransom, Bedford; Mr. J. Roger, Madrid; Messrs. Ridges and Sons, Wolverhampton; Messrs. Read and Co., Bristol.

S.—Dr. H. Sutherland, Lond.; Dr. D. Stanley, Birmingham; Dr. W. Sumpter, Norfolk; Mr. N. L. U. Somers, West Bromwich; Mr. A. H. Smith, Boston; Mr. J. Shaw, Lond.; Mr. C. Sanders, Lond.; Messrs. G. Street and Co., Lond.; Messrs. Southall Bros. and Barclay, Birmingham; Messrs. F. Stearns and Co., Lond.; Messrs. Shanks & Co., Barrhead; St. John's Hosp. for Diseases of the Skin, Lond., Sec. of; Staffs. Gen. Infy., Stafford, Sec. of; Sanitary Institute, Lond., Sec. of; St. Peter's Hosp., Lond., Sec. of; S. W., Bristol.

W.—Dr. F. J. Waldo, Lond.; Dr. S. L. B. Wilks, Skipton; Surg.-Major H. R. Whitehead, Netley; Mr. E. H. Wagstaff, Leighton Buzzard; Mr. S. W. Wilson, Dorchester; Mr. E. Wilson, Exeter; Messrs. W. Wood and Co., New York; Messrs. F. Warne and Co., Lond.; Woodhall Spa Sanatorium, Sec. of; Workhouse Infy. Nursing Assoc., Law Sec. of; W. M. C.

X.—X., Bradford; X. Y. Z., Lond.

Y.—Yost Typewriter Co., Lond., Managing Director of.

T.—Dr. Tate, Grisons; Mr. N. Taraehand, Mansfield Woodhouse; Mr. H. G. Turney, Lond.; Mr. W. C. E. Taylor, Scarboro'; Mr. Lawson Tait, Birmingham; Mr. H. Taylor, Guilford.

U.—University of Pennsylvania Press, Philadelphia, U.S.A.

V.—Dr. A. M. Vargas, Barcelona; Veracity, Lond.

Letters, each with enclosure, are also acknowledged from—

A.—Mr. R. R. Anderson, Carmarthen; Messrs. Armour and Co., Lond.; Apollinaris Co., Lond.; Ashwood House, Kingswinford, Sec. of; Aston Union, Clerk of; Arthur, Lond.; Eger, Lond.; Assistant, Lond.; Alpha, Lond.; A. B. C., Lond.; Argon, Leamington Spa; A. B. C., Lond.

B.—Dr. D. C. Black, Glasgow; Mr. R. Bevan, Lydd; Mr. E. S. Bishop, Manchester; Mr. S. H. Byam, Lond.; Mr. J. S. N. Bull, Swaffham; Mr. C. E. G. Bateman, Lingfield; Messrs. Bryce and Rumpff, Lond.; Birmingham Gen. Hosp., Sec. of; *Birmingham Daily Post*, Manager of; Bury Disp. Hosp., Sec. of; Brighton and Hove Lying-in Inst., Sec. of.

C.—Mr. J. Carter, Lond.; Mr. J. H. Collier, Sheffield; Mr. B. R. Conolly, Funchal, Madeira; Coll. of Preceptors, Lond., Sec. of; Carlisle Disp., Sec. of; Clerical and Medical Bank, Bristol, Manager of; C. D., Lond.; Cheltonian, Lond.; Chirurgeon, Lond.

D.—Dr. A. J. Dixon, Bristol; Mr. E. G. Down, Bournemouth; Messrs. Douglas and Foulis, Edinburgh; Daleth, Lond.; Dispenser, Lond.

E.—Mr. F. G. Ernst, Lond.; Exeter City Asyl., Clerk of.

F.—Dr. F. D. Fisher, Manchester; Mr. V. P. Foote, Lond.; Mr. M. H. Feeny, Haverthwaite; Mr. C. E. S. Flemming, Freshford.

G.—Messrs. Gale and Co., Lond.; Gen. Apoth. Co., Lond., Sec. of; Gilbertus, Lond.; Gerald, Lond.

H.—Dr. V. D. Harris, Lond.; Dr. L. A. Hawkes, Pendlebury; Dr. J. Hunter, Linlithgow; Mr. E. Hollinshead, Tunstall; Mr. O. L. Holst, Eastbourne; Hanover Inst. for Nurses, Lond., Supt. of; Hulme Disp., Manchester, Sec. of; H. C. L., Lond.

I.—Islington, Lond.

J.—Mr. Y. M. Jones-Humphreys, Cemmaes; Mrs. Jones, Liverpool.

K.—Mr. C. S. Kirton, Leigh; Messrs. Kenyon and Lord, Manchester.

L.—Dr. A. B. Lyon, Macduff; Mr. J. Logan, Glasgow; Messrs. Lee and Nightingale, Liverpool; Liverpool Northern Hosp., Sec. of; Leipsic, Lond.

M.—Mr. J. McKeague, Lond.; Mr. J. B. Monks, Great Harwood; Messrs. J. F. Macfarlan and Co., Lond.; Messrs. Margrave Bros., Llanelly; Manchester Roy. Infy., Sec. of; M.D., Manchester; M. F., Lond.; Medico, Aldborough; Medicus, Liverpool; Medicus, Lond.; Minus, Lond.; Medicus, Hull; M. B., London; Medical, Todmorden.

N.—Messrs. H. J. Nicoll and Co., Lond.

O.—Mr. C. A. P. Osburne, Hythe; Oxon, Lond.

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